13A1-29

Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

https://archive.org/details/s1id13414040

Day & Haghe, lith.rs to the King. Gate St. Lincs Inn Fields

# THE

# TRANSACTIONS

OF THE

# PROVINCIAL

# MEDICAL AND SURGICAL

# ASSOCIATION.

INSTITUTED 1832.

---

VOLUME IV.

---

LONDON:
SHERWOOD, GILBERT, AND PIPER;
AND
DEIGHTON, WORCESTER.

MDCCCXXXVI.

WELLCOME
HISTORICAL
MEDICAL
LIBRARY

WORCESTER: PRINTED BY H. B. TYMBS AND H. DEIGHTON,
JOURNAL OFFICE.

MEDICAL LIBRARY
BATH

# CONTENTS.


PAGE

Proceedings at the Anniversary Meeting at Oxford ..... i
Introductory Address, by J. Kidd, M.D. F.R.S. ..... v
Report of the Council ..... ix
Reports of Committees, &c. ..... xix

## PART I.

An Address delivered at the Third Anniversary Meeting of the Provincial Medical and Surgical Association, July 23rd, 1835. By J. C. Prichard, M.D. F.R.S. Corresponding Member of the Institute of France, Member of the Royal Academy of Medicine of Paris, and Senior Physician to the Bristol Infirmary ..... 1

## PART II. FOREIGN CORRESPONDENCE.

An Account of the Autumnal Fevers, Epidemic Scarlatina, and Small-Pox, which prevailed at Amsterdam, during the Year 1834. By C. I. Nieuwenhuys, M.D. Honorary Corresponding Member for Holland ..... 55

## PART III. MEDICAL TOPOGRAPHY.

On the Medical Topography, Statistics, &c. of Malvern, and of the District at the Base of the Malvern Hills. By William Addison, Esq. F.L.S. Surgeon to H. R. H. the Duchess of Kent. *(With a Map.)* ..... 87

Sketch of the Medical Topography of the Hundred of Penwith, comprising the District of the Landsend, in Cornwall. By John Forbes, M.D. F.R.S. Physician to the Chichester Infirmary; Honorary Member of the Cambridge Philosophical Society, of the Royal Geological Society of Cornwall, of the Portsmouth Philosophical Society, &c.; and Physician in Ordinary to His Royal Highness the Duke of Cambridge. *(Continued from Vol. II. p.* 131.*)* ..... 152

## PART IV. ESSAYS AND CASES.

On the Physiology and Pathology of Intermittence. By Charles Cowan, M.D. Bath. ..... 262

A Memoir upon the Method of securely closing moist Anatomical Preparations, preserved in Spirit. By John Green Crosse, Esq. Surgeon to the Norfolk and Norwich Hospital, and Lecturer on Clinical Surgery; Fellow of the Royal Medical and Surgical Society of London; Corresponding Member of the Academie Royale de Medecine, and of the Société Médicale d' Emulation of Paris; formerly Demonstrator of Anatomy in the University of Dublin. &c. &c. *(With Plates.)* 284

PAGE.

Observations on some of the Injurious Effects of the Secale Cornutum. By Thomas Chavasse, Esq. Surgeon, Birmingham 306

A Case of Neuralgia of the Uterus, during Pregnancy. By James Holbrook, M D. Crickhowell. ..... 325

On the Unity of Organic Structure. By Paris Thomas Dick, M.D. Clifton, Bristol; Licentiate of the Royal College of Physicians, London ..... 337

On Hydrometra. By James Milman Coley, Esq. Bridgnorth; Member of the Royal College of Surgeons, London, &c. ... 357

A Case of extensive and curious Disease of the Female Pudendum. By Thomas Brayne, Esq. Surgeon, Banbury. (*Illustrated by a Plate.*) ..... 369

A Case of Deformity of the Pelvis, in which the Cæsarean Operation was performed with success. By G. B. Knowles, Esq. F.L.S. Member of the Royal College of Surgeons, London; and Lecturer on Botany at the Birmingham Royal School of Medicine ..... 376

Records of Ovarian Tumours. By E. Barlow, M.D. Senior Physician to the Bath United Hospital, and to the Bath Hospital, &c. &c. ..... 389

A Case of Fungoid Tumour, succeeded by Melanosis. By William Norris, M.D. Stourbridge ..... 437

## PART V. STATISTICS AND REPORTS OF HOSPITALS AND INFIRMARIES.

Statistical Observations on the Medical Charities of England and Ireland. By J. K. Walker, M.D. Senior Physician to the Huddersfield Infirmary ..... 447

A Report of the Out-cases, attended by George Parsons, Esq. F.S.S. at the Birmingham Infirmary, from January 1 to December 31, 1835 ... ..... 479

A Report of the Out-patients attended by Frederick Ryland, Esq. at the Birmingham Infirmary, between the 25th of December, 1834, and the 25th of December, 1835 ..... 504

A Report of the Cases attended by R. Middlemore, Esq. at the Birmingham Eye Infirmary, from June the 24th, to December the 31st, 1835 ..... 517

A Report of the Surgical Patients admitted into the Norfolk and Norwich Hospital, from the 1st of January to the 31st of December, 1834. By J. Godwin Johnson, Esq. Assistant Surgeon to the Hospital ..... 538

## PART VI. BIOGRAPHY.

Biographical Notice of the late Egerton Allcock Jennings, Esq. F.L.S. of Leamington. By John Conolly, M.D. Warwick. 552

# PROCEEDINGS

AT THE

# THIRD ANNIVERSARY MEETING

OF THE

# PROVINCIAL

# MEDICAL AND SURGICAL ASSOCIATION,

## HELD AT OXFORD.

---

THE proceedings began by the meeting of the Council at the Anatomy School, at three o'clock in the afternoon of Wednesday, July the 22nd, 1835, at which all the necessary arrangements were made for the General Meeting the next day. A large party of the members afterwards dined together at Dr. Kidd's.

On Thursday morning, July the 23rd, there was a breakfast at the Angel Inn, and Professor Daubeny gave a public breakfast at his rooms in the Botanic Gardens, which were thrown open early in the morning to the members of the Association.

At ten o'clock Dr. Buckland, Professor of Mineralogy, gave a most interesting and instructive demonstration of many of the curious fossil remains in his museum.

The Ashmolean Museum, the Bodleian Library, and the Picture Gallery, were also all opened to the members of the Association, many of whom, during the morning, visited these attractive collections.

At twelve o'clock, Dr. Buckland's demonstration being concluded, Mr. Costello performed the operation of lithotrity before a large assembly of the members. The Anatomical Theatre having been found incapable of holding all the members of the Association, who were anxious to see the operation, application was made to the Mayor, who kindly gave the use of the Town Hall for the purpose.

Mr. Costello began by observing that as the patient was waiting, he should first perform the operation, and deliver some general remarks upon it after the patient had retired. The stone being discovered by the catheter, Mr. Costello gently introduced his instrument, and presently the stone was seized; being of an unyielding nature, the instrument was fixed in a vice, and the hammer was used to comminute the stone; the fragments were subsequently seized, and broken by the sole pressure of the operator's hand, or by the hammer. The patient seemed to suffer nothing, and expressing himself grateful for the relief he experienced, put on his clothes and retired.

Mr. Costello then spoke on the general subject of lithotrity. He said, when Civiale first proved the possibility of comminuting a stone in the bladder, every other circumstance connected with such a surgical innovation required to be carefully investigated; when his instrument alone, however, was used, stones exceeding an inch and a half in diameter were beyond the scope of the operation. By the invention of his (Mr. Costello's) double slide percussors, stones of all sizes were made capable of being reduced; but nevertheless, he was of opinion that experience authorised him to say, that lithotrity was far from including within the pale of its relief, all those who suffered from stone. First, children were inadmissible on account of their indocility, and the smallness of the organs. Secondly, the favourable periods for the operation were from puberty to the age of fifty or fifty-five years, and, during this period, if the stone was no larger than a walnut, or if there were many calculi, but small, lithotrity was sure to triumph with little pain, and without exposing the patient to any risk; but beyond that period, when the urinary apparatus was altered from a healthy to a diseased state, when the sensibility of the parts was augmented, and the stone was large, lithotrity had its dangers. Mr. Costello, in conclusion, stated, after a lucid exposition of the exceptionable cases, that lithotrity taken within the limits which experience assigned it, was one of the most important and valuable improvements of modern surgery.

## GENERAL MEETING AT THE RADCLIFFE LIBRARY

At half-past one o'clock the General Meeting took place at the Radcliffe Library, and by the hour appointed, upwards of three hundred persons had assembled.

The following gentlemen were at this time in the room:— Mr. Addison, of Malvern; Mr. Alexander and Dr. Alexander, of Corsham; Mr. Allen, of Oxford; Mr. Allsop, of Watlington; Mr. Bagnall, of Chester; Mr. Bailey, of Chippenham; Rev. Dr. Bandwell, of Oxford; Dr. Barlow, of Bath; Mr. Barnett, of Stourport; Dr. Baron, of Cheltenham; Mr. F. Batt, of Abergavenny; Mr. Batt, of Witney; Sir C. Bell, of London; Mr. Best, of Newbury; Dr. Bevan, of Monmouth; Dr. Billing, of London; Dr. Blackmore, of Bath; Dr. Bleeck Lye, of Hereford; Mr. Blenkinsop, of Warwick; Mr. Boddington, of Eddington; Dr. Bompas, of Bristol; Mr. Bolton, of Leamington; Mr. Brayne, of Banbury; Mr. C. J. Brickwell, of Banbury; Dr. Brooks, of Henley; Dr. Brown, of Newbury; Mr. Bunny, of Newbury; Rev. Dr. Buckland, Professor of Geology, of Oxford; Dr. Carrick, of Bristol; Mr. Ceely, of Aylesbury; Mr. Chapman, of Leamington; Mr. Cheatle, of Burford; Dr. James Clark, of London; Mr. Henry Clark; Rev. Mr. Claughton, of Trinity College, Oxford; Mr. Colbourn, of Cheltenham; Mr. Coles, of Woodstock; Mr. Coles, Jun. of Woodstock; Dr. Conolly, of Warwick; Dr. Conolly, of Cheltenham; Dr. R. Coulthas, Queen's College, Oxford; Rev. G. L. Cooke, Sedlian Professor of Natural Philosophy, Oxford; Mr. Costello, of London; Dr. Cowan, of Bath; Mr. Cox, of Aldermaston; Mr. Crang, of Timsbury; Mr. Crosse, of Norwich; Dr. Daubeny, Professor of Botany, of Oxford; Dr. Davis, of Bristol; Mr. Davis, of Bristol; Dr. Davis, of Presteign; Dr. Davis, of London; Mr. Wm. Davis, of Bicester; Dr. Frederick De Jersey, of Guernsey; Mr. G. De Jersey, of Guernsey; Dr. Falret, of Paris; Rev. Dr. Faussett, Margaret Professor of Divinity, Oxford; Dr. Feild, of Worcester; Mr. Fisher, of Oxford; Mr. James Flesher, of Aylesbury; Mr. Fletcher, of Croydon; Dr. Forbes, of Chichester; Mr. Fowke, of Wolverhampton; Mr. T. W. Fowke, of Wolverhampton; Dr. Fox, of Bristol; Mr. Fripp, of Bristol; Mr. J. Fryer, of Bewdley; Mr. Gaurdjett, of Oxford; Dr. Gilbert, Principal of Brasen-Nose College, Oxford; Mr. J. Godfrey, of Charlbury; Rev. J. Gould, of Magdalen College, Oxford; Mr. Graham, of London; Mr. Grainger, of Southwark; Mr. Griffiths, of Hereford; Mr. T. T. Griffiths, of Wrexham; Mr. Hall, of Bath; Mr. Handcock, of Coventry; Dr. J. Hardwick, of London; Mr. George Harrison, of Chester; Dr. Hastings, of Worcester; Mr. Hay, of Bath; Mr. Wm. Hayward, of Aylesbury; Mr. Heathcock, of Reading; Mr.

C. H. Hebb, of Worcester; Mr. J. Hester, of Aylesbury; Mr. Hetling, of Bristol; Mr. G. Hetling, of Bristol; Mr. Hitchings, of Oxford; Mr. Hitchman, of Leamington; Dr. Hodgkin, of London; Dr. Holbrook, of Crickhowell; Mr. J. P. Holmes, of Bristol; Mr. Holmes, of Kidlington; Dr. Hungerford, of Bath; Dr. Holme, of Manchester; Dr. Ingram, President of Trinity College, Oxford; Dr. James; Mr. Jeston, of Henley-in-Arden; Mr. Johnson, of London; Dr. Johnson, of Shrewsbury; Dr. John Johnstone, of Birmingham; Dr. James Johnstone, of Birmingham; Mr. Jones, of St. Leonard's; Mr. R. Jones, of Leamington; Mr. G. Jones, of Henley-in-Arden; Mr. Jordan, of Manchester; Dr. Kent, of Walsall; Mr. F. Kent, of Radley; Dr. Kay, of Clifton; Dr. Kidd, Professor of Medicine, Oxford; Mr. Kidgill, of Pangbourn; Mr. T. W. King, of London; Mr. Thos. Knight, of Bath; Dr. Letman, of Berlin; Dr. Lloyd, of Leamington; Mr. Nicholas Lowett, of St. George's; Mr. H. Lupton; Dr. Macbride, Principal of Magdalen Hall, Oxford; Mr. Margett; Mr. Martin, of Oxford; Mr. Martin, of Reigate; Mr. Masters, of Northampton; Mr. May, of Reading; Mr. E. May, of Reading; Mons. Michell, of Paris; Mr. G. R. Moger, of Bath; Dr. Manson; Mr. Morris, of Worcester; Mr. G. I. Mills, of London; Mr. Nankivell, of Coventry; Dr. Ogle, Aldrichian Professor of Medicine, Oxford; Mr. Ormond, of Bath; Mr. R. Owen, of London; Mr. H. Palmer, of Woodstock; Mr. Parker, Oxford; Mr. Henry Parry, of Henley; Mr. Paxton, of Oxford; Mr. H. Perry, of Henbury; Dr. Prichard, of Bristol; Rev. F. E. Plumptre, of University College, Oxford; Rev. B. Powell, Savillian Professor of Geometry, Oxford; Mr. Pytt, of Burford; Mr. Ridgell; Dr. Robertson, of Northampton; Mr. Rose, of High Wycombe; Mr. N. Rumsey, of Beaconsfield; Mr. H. W. Rumsey, of Chesham; Mr. Rusher, of Oxford; Dr. W. Sainsbury, of Corsham; Mr. Seely, of Aylesbury; Dr. R. W. Scott, of Liverpool; Dr. E. D. Scott, of Queen's College, Oxford; Dr. Sims, of London; Mr. C. H. Slater, of Bath; Mr. N. Smith, of Bristol; Mr. Smith, of Wheatly; Mr. Smith, of Southam; Dr. Somerville, of London; Dr. W. Squires, of Liverpool; Dr. Stevens, of Ely; Mr. Stockwell, of Bath; Mr. Stone, of Oxford; Dr. Streeten, of Worcester; Dr. Sweetser, of Boston, America; Mr. Swinsburne, of London; Dr. I. A. Symonds, of Bristol; Dr. Sealy, of Walgrave; Dr. Thomson, of Stratford; Sir C. Throckmorton, Bart. Coughton Court, the Father of the

Profession; Dr. Todd, of London; Mr. Tuckwell, of Oxford; Mr. Tudor, of Bath; Dr. Underwood, of Ross; Mr. S. W. Vincash, of Stadhampton; Mr. Wakeman, of Thame; Mr. E. Wallace, of Carshalton; Mr. Webb, of Oxford; Mr. Welshman, of Kineton; Mr. R. Westward, Jun.; Mr. W. Wickham, of Winchester; Mr. Williams, of Leamington; Mr. H. H. Wilson, Boden Professor of Sanscrit, Oxford; Mr. H. Wilson; Mr. J. W. Wilton, of Gloucester; Mr. Wingfield, of Oxford; Mr. J. F. Wood, of Oxford; Mr. Wood, of Bath; Mr. T. Workman, of Basingstoke; Dr. Zacharia, of Heidelberg.

## THE ADDRESS DELIVERED BY PROFESSOR KIDD, F.R.S.

Dr. Kidd was called to the chair, and delivered the following Address:—

Gentlemen,—It is not my intention to dedicate more than a very small portion of this short and merely introductory address to any remarks that have not a direct reference to the object of this meeting; but I should ill deserve the flattering distinction by which I have been honoured on the present occasion, did I not take the earliest opportunity of declaring, that I derive from it a gratification such as I have never experienced before, nor can expect ever to experience hereafter. And yet, in saying this, I can affirm with sincerity, and hope to be believed without reserve, that this feeling does not arise from any consciousness of my individual worthiness of such a distinction; for, however I may have laboured within my own limited sphere, in endeavouring to promote the cultivation of Natural Science in general, I cannot be ignorant that in that department of it, which belongs to medicine, I have no more than the most ordinary claims to the consideration of an assembly like that which I have now the honour of addressing.

My gratification, indeed, arises from a much higher source than the consciousness of any personal qualifications: it arises chiefly from the recollection of that expression of respect towards this University, which I had the happiness of witnessing on the occasion of the original formation of the Society; but it arises partly, also, from the consequent kindness to myself, as a member of the University, which made me feel at once in the midst of friends, though personally unknown to almost every one then present: nor could I but exult in the desire, which was at the same

the subject, the elevated level in the scale of society which the provincial medical practitioner is capable of attaining; and thus to induce them to co-operate with their brethren in maintaining that level. This they are more particularly called on and enabled to accomplish at the present moment; seeing that in every department of medical education the qualifications required have not only been of late years raised, but very nearly equalized, and that from henceforth neither will the possession of merely external honours lead any individual to wealth or fame, nor will the want of them debar him from them. Such honours doubtless are not without their value with reference to society at large; and the analogy of universal nature shews us that they are calculated to produce a good effect. But the time, I trust, has happily arrived, when by every individual of sound judgment they are regarded in their true light; on the one hand neither envied nor despised by those who happen not to possess them; on the other hand most willingly communicated, by those who have the dispensation of them, to all who, though not having a claim to them on the mere grounds of the performance of certain exercises and periods of residence in a particular spot, have yet acquired an equitable title to them by the pre-eminence of their talents and information, supported, let me add, by the integrity of their moral character. Such are the claims of those two members of the Provincial Medical and Surgical Association, on whom this University has lately conferred the highest honour which it has the power of conferring. Long may those individuals enjoy an honour, to the possession of which I know they attach a due value; and in the meantime may Oxford meet with further opportunities of enrolling among its members, by means of similar honours, names as distinguished as those of Abercrombie and of Prichard.

Gentlemen,—It would now become my duty immediately to propose that Dr. Hastings should be requested to read the Report of the Council; but before doing so, I have a most pleasing duty to perform, the pleasure arising from which would have been doubled, had both the individuals been present to whom I refer. Dr. Abercrombie would most willingly have attended the meeting of the association, had it been in his power; but when we consider that he resides at the distance which divides Edinburgh from Oxford, and when it is considered, also, what his duties are, I could neither ask nor expect it. But I have it in my power to

present to Dr. Prichard, which I do with unfeigned pleasure, that testimonial of his merit which the University has conferred upon him.—[The diploma was now presented to Dr. Prichard, who on receiving it was greatly applauded.]—Gentlemen, though I do not wish to over-rate an honour which has been conferred by a body to which I have the honour to belong, yet, at the same time, I naturally wish that it should not be under-rated ; and as many persons may not be aware of the extent of the honour thus conferred, I will state that it gives to the individual to whom it is presented, not only all the privileges which he would acquire by the strictest compliance with the rules of the University, by a residence of many years, and by passing through several degrees, but it gives him that honour immediately, and without any condition. A member of the University who has acquired the honour in the regular course could not exercise the right of voting immediately ; but when it is conferred by diploma, as in this case, the individual to whom it is presented acquires an immediate right to vote.—Gentlemen, I will detain you no longer, but will, with your permission, at once request Dr. Hastings to read the Report of the Council."

## THE REPORT OF THE COUNCIL FOR 1835.

The constitution of the Provincial Medical and Surgical Association judiciously enjoins, that the Council shall, at each anniversary meeting of its members, submit an account of the proceedings by which the past year has been distinguished. This task has been hitherto, on each occasion, very gratifying to the Council, because they have been enabled to address the assembled members in the language of congratulation, on the progressive advancement of this highly-valuable Institution. The arrival of the Third Anniversary Meeting gives the Council an opportunity of again recording that there is a continued increase of the prosperity of the Association, and that its affairs still promise to be so managed as to lead on to future and more extended usefulness.

It is a very encouraging circumstance that the Association has, since the last meeting, received additional support from the great and influential body of Provincial Practitioners; the number of members, since the meeting at Birmingham, having increased from four hundred and fifty to five hundred.

The finances of the Association are altogether in a favourable condition, for, notwithstanding the expensive style in which the volumes of the *Transactions* have been printed, and the necessarily high charge for the drawings by which they are illustrated, the Council are enabled to report that there is still a balance in the hands, of the Treasurers; as the income for the present year has amounted to £511 6s. 11d. and the expenditure to £349 9s. 3d. leaving a balance of £161 17s. 8d. due to the Association. This balance would have been much greater if every member had paid his subscription to the Treasurers: and the Council cannot avoid taking this opportunity of reminding the members generally, that punctuality in the payment of their subscriptions, when they become due, is of the utmost importance to regularity in carrying on the affairs of the Association. To insure this punctuality, without much trouble to the members, it has been so arranged that any gentleman may, by giving the necessary direction to his own banker, remit any sum to Messrs. Robarts and Co. London, for Messrs. Berwick and Co. Worcester, on account of the Provincial Medical and Surgical Association. The Council feel certain that it is only necessary to call attention to the facility with which the subscriptions may be paid, to induce greater punctuality for the future in this respect, the result of which will be, that our income will be much improved, and the prosperity of the Institution will be more firmly established.

The contributions sent from the members to the Council, for publication, have been as numerous as heretofore; and this has enabled the Association to send forth to the world a third volume of *Transactions*, which, it is hoped, will sustain the credit acquired by their previous volumes. Separate communications on each of the subjects of enquiry proposed at the formation of the Association, excepting Medical Topography, appear in this volume; and even this subject is not overlooked, as several of the essays have a direct tendency to elucidate the laws of endemic and epidemic diseases, and to shew the kind of diseases which are incident to the different periods of human existence. The reports of the Medical Institutions at Birmingham, afford a well digested arrangement of numerous facts relative to the prevalence of disease, and the law of mortality; which species of enquiry, if extensively followed up, through similar investigations, by the numerous members of our body, situated in localities which vary so much in the

circumstances affecting human health and longevity, must eventually lead to very valuable additions to our knowledge of Medical Statistics—a branch of science the importance of which is every day becoming more apparent, not only to the medical philosopher, but also to the legislator and philanthropist.

It would be wandering from the immediate object which should be kept in view in this report, if the Council were to attempt to point out the various subjects which may profitably engage the attention of the members of the Association; but there is one species of inquiry which has lately attracted the notice of some of our members, to which the Council think it desirable to advert.

Disease being a state not fixed and definite, but variable and progressive, it is obvious that, in its investigation, that course of inquiry must be most perfect which, commencing with the earliest deviation from a state of health, traces the several morbid changes, consecutively, from this point, to the aggregate of symptoms, usually considered as constituting a specific disease. The initiatory stage of disease, or that which precedes and ushers in the more complex derangements, constituting a nosological malady, has been hitherto but very imperfectly investigated, and for the obvious reason that medical assistance is rarely sought until some specific malady is engendered, which then, for the first time, becomes the subject of medical observation; this, from the suffering or danger usually attendant, absorbs attention, and to the immediate relief of which all efforts are then directed. Yet forming, as the incipient stage does, an essential and most important part of the series of morbid changes, it cannot be too closely or accurately scrutinized, or too clearly understood. Were the changes which occur in this stage more perfectly comprehended, much of the obscurity which so often shrouds more advanced disease, would be cleared away; remedial treatment would be more direct and effective; and prophylaxis, which of the ends of medical science is assuredly not the lowest in importance, be far more certain.

One of our members, Dr. James Clark, has most admirably exemplified the good effects which are likely to result from inquiries of this nature, in his able article on that scourge of the human race, tubercular phthisis, in the *Cyclopædia of Practical Medicine;* and which has just been published by the author, in an extended form, as a *Treatise on Pulmonary Consumption*, and *Scrofulous Diseases*. He there, with great truth, remarks, that had the labour

and research which have been wasted in fruitless experiments to cure an irremediable condition of the lungs, been directed to the discovery of the causes and nature of tuberculous disease, with the view of deducing rules for its prevention and treatment, consumption would be regarded in a light very different from that in which it is looked upon at the present period. Such a view of tuberculous consumption would comprehend not merely the period succeeding the actual development of pulmonary tubercles, but the whole course of the disease, from the very commencement of the pulmonary disorder. By a knowledge of this constitutional disorder, we may reasonably hope to prevent, in many cases, the occurrence of disease, and, in a small proportion, to arrest its progress in its nascent state, and even to remove its local effects; and if we go a step further back, and investigate the causes which give rise to the tuberculous diathesis in the parent, we may also hope to diminish the hereditary disposition in the offspring.

Another member of the Association, Dr. Barlow, of Bath, has also, for many years, devoted much attention to the incipient stage of disease; and has given the results in several publications. The earliest of these was an Essay, in the *Edinburgh Medical and Surgical Journal*, entitled "Pathological and Practical Observations," published in 1813-14, and contained in the ninth and tenth volumes of that work. The views there presented were further developed in a small Treatise on the Bath Waters, published in 1822; and they have since been still more fully submitted to the profession, in certain articles in the *Cyclopædia of Practical Medicine*, more especially in those on gout, plethora, and rheumatism. If the doctrines maintained by Dr. Barlow be true, they must lie at the root of all sound pathology, and enter largely into the consideration of the ulterior and more prominent changes to which pathological researches have been hitherto rather too exclusively confined. The Council rejoice to see that the subject begins to excite the attention it merits, and to exercise the talents of many eminent pathological writers of the day. In the admirable investigations of Andral, more especially in those which he has devoted to "Lesions of the Blood," will be found much to correspond with doctrines advanced by Dr. Barlow, and to confirm their truth and accuracy. Practical truth being a main object for which this Association was founded, the Council feel that they cannot promote it more effectually, than by earnestly recommending to the members

the cultivation of this field of inquiry, which promises an abundant return to those who may labour in it.

Leaving to the members to attach to the above recommendation what value they may consider it to deserve, the Council proceed to remark, that they conclude the reports which were committed to the respective committees, to be presented to the present meeting, will now be received; and it is consequently to be wished that other members, actuated by the same desire to promote the progress of the Association, and to advance the interests of medical science, will be disposed to come forward on this occasion, and to pledge themselves to produce reports on some distinct branches of medicine, at the anniversary meeting that will be held in the year 1836. The council will not dictate to the meeting what may be the subjects best suited for these reports, but they may observe, that as the question of Medical Benevolent Institutions, in the due and proper regulation of which the interests of the medical profession are so much engaged, has been referred to a committee; and as the best mode of managing such Institutions, so as to make them conduce to the advantage of the profession, by affording relief to those practitioners who may need assistance under the pressure of disease or poverty, is still questionable, they conceive that a report on this subject might tend to bring this important question in a clear manner before the Association.

Another subject which at the present time is very interesting to the great body of medical practitioners, is the best mode of administering medical relief to the sick poor. Under the New Poor Law Act, the guardians of the poor have great power, and as respects the medical attendance of the poor, they seem inclined to exercise that power in a manner greatly objected to by a large portion of the present respectable class of general practitioners. Perhaps it might have a considerable influence on the minds of the guardians of the poor in regulating the plans for medical attendance, if this Association would point out the generous manner in which the medical profession has at all times come forward at the call of charity, to administer gratuitous relief to the necessitous sick, and also to demonstrate the great sacrifices that have been for many years made by the great body of the profession, for that purpose; all of which might be embraced in a report from a committee of our members.

At this meeting it will also be necessary finally to determine

what measures the Association will adopt relative to the two important questions that were referred, at the Birmingham anniversary, to the consideration of separate committees; one of these elates to the establishment of a permanent Medical Library; and the other to the annexation of a Medical Benevolent Charity to the Association.

The Council have not to report any donations, in addition to those which were stated to have been received at the last anniversary for the establishment of a Prize Essay Fund.

The Council are not aware, that it is necessary to prolong this report by any further remarks, but they are unwilling to conclude without stating their strong conviction, that the present proud situation of the affairs of the Association, is mainly to be attributed to the admirable zeal and energy which have animated the great body of the members, and which have induced them to devote their time and talents to enrich the *Transactions*, and by other means to advance the prosperity, and increase the usefulness of the Association.

Already are the good effects of the co-operation of which this Association has set the example, becoming impressed on the minds of physicians and surgeons, in distant parts of the empire; and as a consequence, a desire has been expressed to form similar Associations for the advancement of medical science. The Council cannot but earnestly hope that wherever such plans are in contemplation, they may lead to a happy consummation. The members of this Association, will then enjoy, not only the cheering retrospect of their own successful exertions, but also the delightful thought, that stimulated by their example, other labourers have also gone into the vineyard, and have collected fruit in abundance.

In conclusion, the Council would earnestly entreat the members to bear in mind, that the principal object for which they associate, is the advancement of medical science, and the consequent benefit of the human race. The object is noble, and recommends itself to the highest aspirations, and to the best feelings of which mankind is capable; and it cannot fail to interest all those who are imbued with the spirit of an age remarkable above all others by the spread of knowledge, and by the philanthrophy which has at all times characterized the medical profession.

CHAS. HASTINGS, M.D.<br>
J. P. SHEPPARD, Surgeon, } Secretaries to the Association.

Dr. John Johnstone, of Birmingham, then rose and addressed the meeting as follows :—The Report which has now been read, is so satisfactory a document, and goes so fully into the subject, both of the progress of our Institution, and of the means recommended for the furtherance of its objects, that I shall not enter into any remarks upon that detail. If I were to enter into it, it would be upon that part which recommends to your consideration the subject of the poor in relation to medical attendance; but as that subject would require a long discussion, I think it would be much better that the recommendation made in the report should be adopted, namely, that every gentleman concerned with the poor, and who is employed as a medical practitioner for their relief, should make his own report to this Association, so that we might have a general understanding on the subject. But on the present auspicious occasion, surrounded, as we are, by the great body of enlightened practitioners in this country, assembled, too, in undiminished numbers, and with increased zeal, in this very seat of the Muses, and the resort of sages for so many centuries past—this sanctuary of learning, revered and honoured by all civilized nations, and endeared, especially to some of us, by recollections and associations which bind us to it by millions of ties of almost filial duty and affection—it is impossible for us not to exult at our present position, and not to believe that our views are correctly estimated, and that it is known we are met together, not for any selfish purposes, but by enlarging the volume of science to diminish the mass of human misery. It cannot be forgotten in our annals, too, that by the bounty of this University, and by the kindness of our learned President, we are assembled under this dome, reared and dedicated by medical munificence, for the purposes enumerated in the report. Under this dome, if I may dare to use the image, the *Genius loci*, the spirit of medicine itself, looks down with complacency upon us and breathes a benediction upon our labours. Gentlemen, I need not repeat the latter part of the recommendation contained in the report, but I shall immediately proceed, without trespassing longer upon your time, to propose—

That the report of the Council be received and adopted by this meeting.

Dr. Carrick (of Clifton) shortly seconded the resolution; which was carried unanimously.

Dr. Prichard, at the request of the President, then read his Retrospective Address, which, on its conclusion, being universally applauded,—

Sir Charles Bell rose and said, that he had not only the privilege, but the command of the President to address the Association. He had never taken his seat in any assembly with more pleasure and satisfaction than on this occassion, because he saw so many old friends around him, and knew that he was sitting in so extremely respectable a company; and, above all, because he thought he should have had the pleasure of hearing the very admirable paper which had just been read by Dr. Prichard, without being called on to do anything in the way of publicity, which he always wished to avoid, because he had never yet attempted it without sitting down with the mortifying reflection that the very sentiments he ought to have expressed, and the words he would have used, had been omitted. He had, however, now a very easy task to perform, which was merely to call upon the meeting to express their admiration of the very excellent paper to which he had referred, and which must have been the result of long study and much personal observation. All who had heard it must have admired its language and the lucid arguments contained in it, and would, he was convinced, claim it as their own and order it to be printed. It was hardly possible to look around him without remembering the advantages possessed by the members of this Association over the London practitioners, who were in a troubled stream, and had to struggle with difficulties, although they had the advantage of communicating easily with each other. It had long been observed that gentlemen in the Provinces possessed a great advantage in being thrown upon their own resources, by which means they acquired a manliness of character which chimed admirably well with their philosophical character, and produced the most beneficial results. He concluded by moving—

That the thanks of the meeting be given to Dr. Prichard, for his able and eloquent Address; and that he be requested to print the same in the second volume of the *Transactions* of the Association.

Dr. Daubeny (of Oxford) seconded the resolution.

Mr. Tudor (of Bath) said he had a resolution to move, with respect to the appointment of a President for the ensuing year. One of the rules passed at the first meeting of the Association was,

that the office of President should be conferred on some senior Physician or Surgeon of eminence, resident in any of the provincial towns comprised in the circle of the Association. In consequence of that resolution, a request had been sent to Mr. Ransome, of Manchester, where the next meeting of the Association was intended to be held, to accept the office of President, but that gentleman finding it would interfere with some religious feelings he entertained with regard to presiding at the dinner (he being a member of the Society of Friends) had declined the honour; the consequence of which was, that he (Mr. Tudor) had been requested to move—

That the Anniversary Meeting, for the year 1836, be held at Manchester; and that Dr. Holme be requested to accept the Office of President-elect.

Mr. Crosse (of Norwich) seconded the resolution, which was carried unanimously.

Dr. Barlow (of Bath) said that the pleasing duty devolved upon him of proposing—

That the thanks of the meeting be given to Dr. John Johnstone, the late President of the Association; and that he be appointed a permanent Vice-President.

Dr. Bevan (of Monmouth) seconded the resolution, which was carried unanimously.

Dr. Conolly (of Warwick) said, that if he had had the choosing of the resolution he was about to propose, he could not have selected one which would have given him greater pleasure. The purport of the resolution was—

That the thanks of the meeting be given to Dr. Hastings and Mr. Sheppard, the Secretaries of the Association; and that they be requested to continue their services.

It was impossible for any one, who, like himself, had had the pleasure of attending all the meetings of the Association, to submit the present motion without at the same time recalling the very great degree of pleasure which he, in common, he believed, with all other members of the Association, had derived from meeting his professional brethren. Such opportunities as these were almost the only means that medical men had of seeing gathered together much that was estimable in their profession, and enjoying that

intercourse and those means of communication from which, under ordinary circumstances, they were debarred. He felt how deeply the Association was indebted to the gentlemen who were named in the resolution, and he trusted that their valuable services would not be withdrawn.

Mr. Hetling seconded the resolution, which was carried unanimously.

Dr. Booth (of Birmingham) said he need not make any long preface to the motion he was about to submit to the meeting. The proceedings of to-day, and of the last year, bore sufficient testimony to the merits of the Council, whose re-appointment he was now about to propose. The whole proceedings of the present meeting were marshalled and ordered by the Council; and although little of the trouble they took, and little of the responsibility they incurred, was manifest and open, many anxious hours of labour and attention were devoted by them to promote the objects for the furtherance of which this Association was founded. They deserved, therefore, and he was sure they would obtain the approbation and confidence of the meeting. He would now move—

That the Council for the past year be requested to continue their services, with the following members in addition; and that they be empowered to add to their number:—

| | |
|---|---|
| Dr. Scott, of Liverpool. | Dr. Rumsey, of Amersham. |
| Dr. Bleeck Lye, of Hereford. | Mr. Wickham, of Winchester. |
| Dr. Prichard, of Bristol. | Mr. Fowke, Jun. of Wolverhampton. |
| Mr. Martin, of Reigate. | Mr. Bolton, of Leamington. |

Dr. Symonds (of Bristol) said he hoped he might be allowed to express the very great satisfaction he experienced in meeting so many of his fellow labourers. He could not claim Oxford as his Alma Mater, yet Oxford had been to him a sort of mother; he was born within the shadow of the walls of the University; he was educated at one of the grammar schools attached to the colleges; he had imbibed some of his earliest lessons in anatomy and chemistry, from the distinguished professors of those sciences who were now present; and he felt peculiar pleasure in seconding the resolution which had just been proposed.

The resolution was carried unanimously.

Mr. Wingfield (of Oxford) said that, in rising to propose a gentleman as the proper person to be requested to deliver the

Retrospective Address at the next anniversary, he had only to mention the name of Mr. Hey, of Leeds, to meet with the universal approbation of the meeting. He should not mention the name of that gentleman without alluding to a circumstance which was most highly creditable to his father, in whose steps he had walked, namely, that he, when a very old surgeon, had gone from Leeds to London, in order to have a personal communication with Mr. Abernethy and Sir Astley Cooper, and to attend lectures there, with a view to satisfy his mind on a minute point of anatomy relating to hernia. He (Mr. Wingfield) felt it right to state that, in the first instance, when the formation of this Association was mentioned to him, he had doubted as to its usefulness; he had now, however, only to look around him, and to advert to the proceedings of this day, to have that doubt, if he had still continued to entertain it, entirely removed.

Dr. Streeten (of Worcester) seconded the motion, which was carried unanimously.

Dr. Hastings said that there were four Reports which were to have been laid before the meeting, namely, the Vaccination Report; the Report on the Physiology of Alimentation; the Report on the Pathology of Dropsy; and the Report on the Rise and Progress of Provincial Medical Schools. But he had received communications from the gentlemen who had undertaken to prepare them, stating, that as the subjects required much consideration, further time was necessary for their completion.

## REPORT OF THE COMMITTEE FOR ESTABLISHING A BENEVOLENT SOCIETY.

Dr. Scott then read the following Report of the Committee, appointed at Birmingham in 1834, to consider the practicability of establishing a Benevolent Society, in connection with the Provincial Medical and Surgical Association.

At the last anniversary meeting of this Association, held at Birmingham, on the 18th of July, a Committee was appointed, consisting of the following members:

| | |
|---|---|
| Dr. Jeffreys, of Liverpool; | Mr. Ransome, of Manchester; |
| Mr. Wickenden, of Birmingham; | Dr. Evans, of Birmingham; |
| Mr. Wilson, of Manchester; | Dr. Booth, Ditto; |
| Dr. Baron, of Cheltenham; | Mr. Williams, of Holywell; |

to take into consideration the practicability of connecting a Benevolent Society with the Association, and they were requested to confer with the Birmingham Benevolent Society, with a view of extending the benefits of that Society to the members of the Association, and to communicate the result to the next Anniversary Meeting.

In order to accomplish this object, the members of the Committee entered into a correspondence with each other, which was carried on, at different times, chiefly through the medium of Dr. Jeffreys, whose zealous exertions in this matter, as well as for the general interests of the Association, cannot be too highly appreciated; but it was found that the delay, in replying to communications, occasioned by their professional engagements, and the great distance of their residences, rendered it difficult, if not impossible, by epistolary correspondence alone, fully to ascertain their mutual sentiments, or to give to the subject that united and mature consideration which its importance demanded, and which might enable them to determine upon some specific plan to be submitted to the Association.

It was, therefore, proposed by the members residing in Manchester, that an interview should take place between Dr. Jeffreys, Mr. Williams, and themselves, as being within the more immediate vicinity of each other.

Mr. Williams, to whom the Committee are indebted for many valuable suggestions, was prevented from attending, and at the request of Dr. Jeffreys, Dr. Scott accompanied him to Newton, on the 8th of June, where they were met by Mr. Wilson, but had to regret the unavoidable absence of Mr. Ransome.

At this meeting the following Resolutions were adopted:—

1. That in consequence of the difficulty of meeting on the part of professional men, it is highly desirable and necessary that the number of this Committee be increased, and that therefore Dr. J. Lomax Bardsley, of Manchester, and Dr. Brandreth, and Dr. Scott, of Liverpool, be appointed members.

2. That in the opinion of this meeting, a Benevolent Society, in connection with the Association, is both desirable and practicable, and that its immediate adoption be recommended to the Anniversary Meeting.

3. That the members of the Committee in Liverpool be requested to draw up a plan, to be submitted to those in Manchester for their

consideration, and that a subsequent meeting, if necessary, take place at Newton previously to its adoption.

In consequence of these resolutions, the following Report has been agreed upon, and is respectfully submitted to the Association.

In compliance with that part of the resolution of last year, which recommends application to be made to the Medical Benevolent Society, of Birmingham, Dr. Booth conferred with the committee of that Society, and the proposal was referred to the Annual General Meeting of the Subscribers, when it was decided that it was not expedient to unite with the Association.

This circumstance though much to be regretted, as placing at the outset an obstacle to the formation of the Society, could not but be anticipated, as it was scarcely to be expected that the members of a society already in operation to their entire satisfaction, would be willing to risk its safety by connecting it with one, whose success was at least uncertain, however desirous they might be individually of its efficient establishment.

At the commencement of their labours it was the anxious wish of the Committee, to be able to recommend to the Association, a plan of a comprehensive nature, embracing in its objects, not merely a Benevolent Fund, but also an Annuity and Life Insurance Society, under the management of one or distinct committees; for this purpose various information was obtained respecting the regulations of similar Societies, and different scales of premium drawn out, but the refusal of co-operation on the part of the Birmingham Society, on the one hand—and the rapid increase of the members of the Association, which annually takes place, on the other—have induced the Committee to believe that the establishment of the latter branch at least, may be undertaken with more favourable auspices at a subsequent period, and at the present anniversary to confine their recommendation to a less complicated plan than they at first proposed.

The facilities which are now afforded to effect insurances in the established offices, the low rate of premiums required, and the confidence which exists of the due fulfilment of their engagements, hold out strong inducements to the members of our own, as well as of other professions, the nature of whose income is precarious, and render less necessary the establishment of a similar society among ourselves, especially as one object of the contemplated Benevolent Fund will be to afford assistance to contributors, either in the way

of a grant or loan, under a due statement of circumstances, and at the discretion of the Committee, to enable them to pay the necessary premium upon insurances previously effected by them.

The complexity of the internal workings of a Life and Annuity Insurance Society, and the intricacy of its pecuniary details, seem scarcely compatible with the habits and pursuits of the medical profession, and would require to be under the management of individuals unconnected with it, who possessed a perfect knowledge of the subject.

The practicability of the plan also, must depend upon the number of members willing to join it, and the amount of the sums which may be contributed, of which the present Committee have no means of judging; but if it should be deemed expedient by the Association eventually to establish a society of this nature, they recommend that application should be made to the members who may be present at this anniversary, to know how far it is likely to meet with general concurrence and support; and that Committees consisting of not less than three members, be appointed in at least four of the larger towns, who shall be requested to ascertain the probable number of contributors in their respective districts, and to co-operate with each other generally, in preparing a report to be submitted to the Anniversary Meeting of 1836.

A purely Benevolent Fund is however free from every species of complexity and embarrassment, and the Committee earnestly hope that the Association will not separate without agreeing to its adoption, and they feel assured that few members will be unwilling to contribute a greater or less sum to the efficient establishment of a plan so admirably calculated to diminish the anxieties, and alleviate the sufferings of their less favoured brethren.

The necessity and advantages of a Benevolent Society have been so ably pointed out by Dr. Baron, in his paper published in the Appendix to the *Transactions* of last year, and are, indeed, so obvious to all, that it would be superfluous to occupy your time in detailing them, as it must have fallen within the experience of most of us to have witnessed members of an honorable and high-minded profession, reduced by unavoidable misfortunes, to the degradation and misery of appealing to individual charity, which might perhaps have been altogether prevented by the temporary assistance which it is the object of this Society to afford.

The following outline of a plan, founded upon the basis of that

proposed by Dr. Baron, and cordially approved of by the Committee, is submitted to the consideration of the Association.

It is recommended that a Society be formed. to be called the "Provincial Medical-Benevolent Society," and that a fund be accumulated by subscriptions and donations, applicable to the following purposes.

1. To the relief of contributors who may be unable, through sickness or casualty, to continue in the performance of their professional duties.
2. To the relief of the widows and children of contributors.
3. To relief under temporary and unavoidable difficulties.
4. As temporary loans, at the discretion of the Committee.

That the fund be under the control of a "Primary Managing Committee," situated in some central town, which may be agreed upon by the Association, consisting of a President, Vice-President, Secretaries, Treasurer, and ordinary members, three of whom shall constitute a quorum.

That local or Sub-committees be also formed in at least four of the larger towns, consisting of a President, Secretary, and three or more members.

That these Committees have certain districts assigned to them.

That applications for relief by contributors residing within these districts be transmitted to the local Committee, and by them investigated and reported to the primary Committee.

That in cases of emergency the local Committees shall have the power of granting immediate relief, to such amount as the Association may determine, either from funds placed in the hands of the Secretaries for this purpose, or by an order on the Treasurer, signed by the President and two Members of the Committee.

That the Treasurer furnish an account of the operations of the Society, and the amount of the funds available to each local Committee, once in each month.

That no person be entitled to relief who has not contributed at least £1 1s. annually for five years preceeding his application.

That a discretionary power in the admission of contributors be vested in the local Committees.

That the benevolent fund be not brought into operation till such a sum has been accumulated as may appear to the managing Committee sufficient to enable them to commence in a satisfactory and efficient manner.

That a statement of the operations and accounts of the Society be submitted to the Association at each anniversary meeting.

Such is the brief outline of a plan which seems to the Committee best calculated to ensure the success of the object proposed; they are, however, at present, only anxious that the principle of a benevolent fund should be adopted; and as it cannot reasonably be expected that it will be sufficiently matured to commence operations till a more or less distant period, abundant time will be allowed to the Committees which may be now formed to prepare a comprehensive and digested series of regulations, to be submitted to the next anniversary meeting.

The extent of relief which may be afforded, must depend upon the necessities of the case, and the amount of the funds available; but how far it should be made to correspond with the sum contributed, or whether an annual grant should be allowed to those who may have become incapacitated by age or infirmity, must be subjects of future consideration; yet the Committee venture to hope that, in a few years, this society will have received such liberal support from the members of a profession ever foremost in the ranks of benevolence, as to enable it, not only to accomplish the primary objects of its establishment, but to rescue from the horrors of poverty many an aged member, worn out with the toils of an arduous and precarious profession, and to illuminate, with the bright rays of fraternal sympathy, his dark and cheerless passage to the grave.

Liverpool, July 18th, 1835.

Dr. Bompas (of Fishponds, near Bristol) said he was happy to be an instrument, however humble, in promoting the objects of the Benevolent Society, and he had, therefore, great pleasure in proposing—

That the Benevolent Committee be reappointed, with unlimited power to form Sub-committees in the several towns, so as to enable them to carry into effect their recommendations; and that they be requested to report their proceedings to the next anniversary meeting. That the following towns be nominated as fit places for the formation of Committees, namely: Cheltenham, Bristol, Bath, Oxford, Reading, Manchester, Hereford, Worcester, Liverpool, Birmingham, Warwick, Chichester, and Monmouth; and that Cheltenham be fixed upon as the town where the central Committee shall be formed. That subscriptions be forthwith entered into.

That Dr. William Conolly, of Cheltenham, be appointed Treasurer *pro tempore*.

Dr. Holme (of Manchester) seconded the resolution, which was carried unanimously.

Dr. William Conolly said, that it was so confidently anticipated that the resolution which had just passed would meet with general approbation, that many benevolent individuals had already handed in their subscriptions. It was unnecessary to say anything in favour of the establishment of such a society, for it spoke sufficiently for itself. As Cheltenham had been named as the fit place for the establishment of the central Committee, he would be very happy to receive the subscriptions of any gentlemen who might be disposed to put down their names.

## REPORT OF THE COMMITTEE FOR ESTABLISHING A LIBRARY.

The following Report of the Committee appointed by the general meeting of the Provincial Medical and Surgical Association, August, 1834, to take into consideration the proposal for establishing a Library in connexion with the Association, was read by Mr. Wickenden, of Birmingham :—

Your Committee entertaining a deep sense of the importance of the "proposal," have given to the subject their most careful attention.

The proposal is, first, "the establishment of a Library for the collection of the writings of all the physicians and surgeons who have lived in the Provinces ;" and secondly,

That "such Library should be the nucleus of one of a much more extended character".

A collection of Provincial writings would be curious, and in some degree useful, but even this could be made, only at a very considerable expense. A Library formed upon a more extensive basis, consisting of those valuable and costly works which few persons can with convenience purchase, would present various claims to support. The almost unique character of the Provincial Medical and Surgical Association has precluded the power of citing examples in favour of, or opposed to, the advantages of a Library for such Associations. Your Committee, therefore, base their opinion of its probable operation, upon the well ascertained knowledge of the utility of such institutions as those which bear some resemblance in their objects—these are Permanent Medical Libraries established by medical men in connexion with public Institutions; and

Medical Libraries established in London or in the Provinces, available to members wherever resident in the kingdom.

The last mentioned appear to approximate most nearly to the one suggested for consideration; your Committee, therefore, have directed their particular attention to the operation of this class.

In reference to the formation of a Library attached to *this* Association, a location became an important, if not a first object for consideration.

Your Committee, therefore, feel it to be their duty to take a view of the difficulties which attend the circulation of books in districts more circumscribed than in the extent marked upon the map by the residences of the members of the Association. The difficulties resolve themselves chiefly into questions of transport, and as collateral considerations therewith connected, the safety of the property of the Institution. From the metropolis to every provincial town there is a direct conveyance; but from any one provincial town to another, such is not always the case. The conveyance of books involves two other important considerations—certain expense of carriage to individuals—and increased risk of loss of books to the Society.

Your Committee are aware that it has been suggested that the receptacle of the proposed Library should be an after-consideration, but as locality so materially affects the general question, they cannot with propriety avoid making one observation relative thereto.

The town of Birmingham, from its more centrical situation, and the greater facilities of conveyance there offered, would seem to claim a preference in your choice, but the adoption of even this locality could not render the books useful to a majority of the members. In Birmingham, as in other large towns, extensive Medical Libraries already exist, but experience proves that little use is made of them by those who reside at a distance.

From a consideration of the expense attending the formation and care of a valuable Library, the impracticability of finding a suitable place for depositing the books, and the insurmountable difficulty of rendering the institution available to a majority of the members—your Committee are induced not to recommend the establishment of a Library in connexion with the Provincial Medical and Surgical Association.

J. M. BAYNHAM,
GEORGE PARSONS,
JOSEPH WICKENDEN.

Mr. Hebb (of Worcester) read a communication which he had received from Dr. Nieuwenhuys, of Amsterdam, relative to an autumnal fever and epidemic scarlatina, which prevailed in Amsterdam, in the year 1834.

Dr. Scott (of Liverpool) proposed that the thanks of the meeting be presented to Dr. Nieuwenhuys for his communication, and to Mr. Hebb, for reading the same.

Mr. Wickenden (of Birmingham) seconded the motion, which was carried unanimously.

Mr. Griffiths (of Hereford) proposed that a Committee be appointed in accordance with the recommendation contained in the report of the Council, to consider the best means of affording medical relief to the sick poor, and more especially with reference to the operation of the new Poor Law Act, and that they be requested to report upon the same at the Anniversary Meeting at Manchester, in the year 1836, and that the Committee consist of

Dr. Davies, of Presteign,
Mr. Rumsey, of Beaconsfield,
Mr. Griffith, of Wrexham, and
Mr. Smith, of Southam.

Dr. Fox (of Bristol) seconded the resolution.

Mr. Rumsey then read the following communication to the members of the Association :

That the Poor Law Commissioners and the Boards of Guardians are anxious to simplify their arrangements and adopt the smallest possible expense ; that in their endeavours to do so they necessarily legislate on medical subjects to the great detriment of the sick poor, and to the offence and injury of the professional body, *e. g.* the power to decide on the necessity of medical relief is left in a marked way to the discretion of non-medical officers.

That the Boards have, in some unions, adopted the plan of dividing them into districts of great extent, comprehending many parishes and a large population, all confided to one medical officer ; thereby placing him at a distance from the sick. Delay in attendance must necessarily follow, and danger in illness has thereby been increased.

That in some unions a charge per case has been adopted, at the very low rate of 2s. 6d. varying a little by an increase to 3s. 6d.

according as the number of cases in the parish per annum diminishes; a case implying any description of illness, and of whatever length short of twelve months, or any accident requiring surgical attention; midwifery excepted; these terms being pressed upon the practitioners by threats of the introduction of young adventurers. So paramount is the system of economy, that in one union a regulation has been introduced to the effect, that if a case in the course of attendance be removed to a union workhouse, and should not have received one calendar month's attendance, the remuneration was to be diminished by one-half of the charge per head, so that thirty day's attendance and medicines might be demanded for 1s. 3d.

That the Guardians seem, when they supplied medical officers from young men fresh from the schools, to supersede the experienced and settled practitioner, to have lost sight of the following facts: that the poor form a very numerous part of the population, presenting extreme cases for the exercise of the several branches of the medical art, more frequently than private practice in the country; and that preternatural cases of midwifery, surgery from accidents, and internal and obscure cases, call for men of long experience.

In proof of the fearful hazard of placing at once in unassisted and uncontrouled practice a student fresh from the schools, let him have earned, and ever so justly, what testimonials he may in them, the following instance is too serious to be altogether buried in oblivion. A young man of this description, recently appointed to the charge of three contiguous parishes, informed a physician, on the latter making inquiry of him what operation he was about to perform on a poor woman, for whom he (the physician) was consulted, that he proposed to employ a bougie for the cure of a stricture in the bowels. The patient being pregnant, the physician, by note to the young practitioner, recommended that this measure should, for the present, be suspended. His advice was not observed. Within an hour after the second use of the bougie, violent pain and vomiting came on, obstruction of the bowels followed, and, although the first symptoms were relieved, in six days the poor woman died. After these circumstances commenced, on the first visit which the physician paid to the patient with the young man, the latter expressed his apprehension that he had pushed the bougie through into the cavity of the abdomen. The physician did not see reason to conclude this to have happened; but he did

conclude that probably unsuitable force had been employed, and that the symptoms which followed were attributable to that force. Now this case is, surely, a melancholy evidence against the system in question. I say the system, for in regard to the young man, he is rather to be compassionated than over much blamed. He did what all young men are prone to do, unless held in check by older heads and hands; but this check no longer exists, and the science must suffer, and the poor man, who cannot help himself, must suffer also till means are effected for his better security in sickness.

The instances of hardships on the practitioner are innumerable. A few examples in illustration of the disproportion of the labour and remuneration may be quoted A poor woman of consumptive family, and having herself had several attacks of pneumonic inflammation, was conducted through an attack of the greatest danger, in which she was visited from two to four times in the day; the remuneration was 2s. 6d. for the whole case. During this illness her little boy became ill with a painful but not dangerous complaint. On application for medical relief, the overseer refused, on the ground that the child's complaint was trifling. These cases will illustrate the hopelessness of any compensation for long attendance being to be derived from the frequency of less troublesome cases.

I have by me the statement of a medical gentleman that he attended a pauper at the distance of two miles and a half daily for three weeks, supplied him with medicines, cupped and bled him, and was to receive 2s. 6d. as the regular stipend. The same gentleman had a chronic case under his care, at the distance of four miles, which was likely to continue his patient many months, at the same rate of 2s. 6d. for the illness.

In an acute and very dangerous illness, life has been placed in greatly increased danger by the distance of the medical man from his patients, in consequence of the arrangement of dividing unions into large medical districts.

An immense number of illustrative facts might soon be accumulated for the clear exposition of the evils of the system.

Mr. Talent, of Amersham, has communicated that he has at this time under his care, at the distance of a mile and a half from his residence, a case of extensively fractured skull, requiring the usual attention, and daily visits and remedies, for which he is to receive 2s. 6d. And that he has many other cases of a chronic kind, and

such as must occur to every practitioner so employed, requiring long continued remedies and visits, all paid for at the same rate, viz. 2s. 6d. per patient, though living in several instances at the distance of two miles from the attendant.

July 20, 1835.

The reply of the Commissioners to the memorial of the Buckinghamshire Medical Association sufficiently shews that there does not appear at present any hope of relief from these evils from them. And that our chief hope must rest upon the power in the professional body of calling into action the most marked expression of right professional principles, so as to make a plain distinction between the members of the body who lent their aid to the objectionable system, and those who, through a conscientious motive, held back—the power to enforce the injurious terms being attainable only by the readiness with which medical men may be found to undertake medical charges on the terms of the Guardians.

(Copy of the reply alluded to.)

Poor Law Commission Office, Somerset House,
6th July, 1835.

Sir,—The Poor Law Commissioners for England and Wales have received the memorial, dated 20th ult. which was ageed upon at a meeting of Medical Practitioners held at Aylesbury.

The Commissioners consider that it is perfectly impracticable for the Boards of Guardians to scrutinise the motives, whether honourable or dishonourable, of candidates for medical offices; but they must presume that, in any offer, the candidate sufficiently protects his own interest and that of his profession; whilst the Board of Guardians are bound to protect the interests of the rate payer, by selecting the most advantageous offers, to be procured by open competition; and they are equally bound in duty to the rate payers, to the paupers, and to your profession even more particularly, to throw the situation open to the whole profession.

Signed by order of the Board.

E. Chadwick, Secretary.

To Robt. Ceely, Esq. Aylesbury.

Copy of the answer to the letter addressed to the College of Physicians, enclosing a copy of the memorial, and entreating their sanction and support in our endeavours to uphold the dignity, respectability, and general interests of the profession.

College of Physicians, London,
July 6th, 1825.

Sir,—I am desired by the President and Censors of the Royal College of Physicians, to inform you that they have received the copy of a memorial to the Poor Law Commissioners, &c. &c. which you have been good enough to transmit to them; and to assure you that they will not be unmindful of the objects which it has in view, although they have no direct means of forwarding them.

I am Sir, your faithful Servant,
Francis Hawkins, Registrar.

To Robt. Ceely, Esq. &c. &c. Aylesbury.

Mr. Smith (of Southam) then read the following address to the members of the Association:

Gentlemen,—I present this paper, with the sincerest affection and respect for the character and real interests of my medical brethren; and I hope, when they have heard it read, they will not separate without investigating the probable future condition of the surgeon and apothecary, if the mode which the "Poor Law Commissioners" have commenced, for paying for medical attendance on the district poor, is persevered in. There are many members of the highest professional rank in this company, that will not be affected by their proceedings, and who courting science for its own sake, or administering almost exclusively for the rich, may not, willingly, enter into details of professional recompence for attendance on the poor.

A few of such, may be disposed to postpone an inquiry, or stifle a discussion not so directly liberal and scientific as those subjects are, which have usually occupied their attention, but I beg to remind the most profound inquirers into the arcana of nature's mysteries, that ours is a practical as well as a speculative art; and that whatever may enable us to act more extensively, conveniently, and lucratively in the real concerns of life, is as truly important, and as much deserving of attention by practical men, as the more profound speculations of science. If this be true, and the practice or income of any of us be likely to be injured, the circumstance ought to be investigated by this Society, who should forthwith unite and defend each other. The Hall and the College leave us to ourselves.

This Society might, by means of a Committee, also make inquiry

into those parts of the economy of the profession, which may be considered defective or erroneous, and make such suggestions for its improvement as may appear to them desirable. Of the many subjects, such a Committee might forthwith consider, the first and most material, especially to country practitioners, would be the best way of paying medical men for their services on that greater half of the population, who cannot pay for attendance or drugs, however moderate the charge. And whilst they declare their desire to aid and co-operate with the "Poor Law Commissioners" in all their wise and judicious measures, where they do not militate against the character of the profession, and the interests of the people—that they would honestly and unitedly resist them, where they do. It appears that the Commissioners are likely to continue the worst features of the system of "contracting for the poor," the errors of which have been so generally seen and acknowledged by the profession, that it is unnecessary to dwell on them here; and I will therefore merely observe, that what has heretofore been a partial evil, is now likely to become a general one, and that which was temporary and fluctuating, to become fixed and perpetual. Such Committee should enquire if it be true, that young men have been sent down to supersede established surgeons, who have families to maintain, but who we must consent to see, one by one, extinguished, if they are obliged successively to compete with young inexperienced men seeking connections, and backed by government introductions and recommendations.: these young men to be again in their turn the victims of a change in parish powers. This is indeed a rod of iron, that has been either applied or suspended over our brethren, in all the counties where the Commissioners have commenced operations. Surely we can only permit it to bear sway, until the *esprit du corps* is roused and the innate corruptions of that system are fully exposed, which has made some of us conform to the trading spirit of the times. Its ill consequences to the poor and the public, have been at length partially seen, and were being gradually altered and improved by medical men, who thus evince that they are desirous, where adequately supported, of correcting what is wrong, when they can do so effectually by themselves. The progressing in doing well, has been embarrassed by those who have not ceased to do evil, but this is no reason for having a yoke put upon us, and submitting to the terrible bondage by which we are at this time threatened. These

improvements, discussions, and exposure, will lead to further improvements, and will probably be accelerated by the hard hand of a new and terrible power, created for managing the children of sin and improvidence, but not for despotically legislating for the medical profession.

A few cases well verified, and the consequences exposed in a moderate temper and with a candid spirit, by a large body of medical men, will create an interest in our behalf amongst the well informed, and, unless we are lamentably deficient in spirit, conduct us to the best constitutional means of escaping from such tyranny. For my own part, I offer to prove, before any competent tribunal, that there is no mode of rescuing us from the mandates of the Poor Law Commissioners, but by the general adoption of Self-supporting Dispensaries; and also to prove, that it is the true interest of the land owner, the community, and the poor, to assist in maintaining them by much more liberal subscriptions than they will be justified in paying the district surgeon of the poor-house.

These Dispensaries would establish courtesy, good will, and public spirit amongst medical men, by bringing them together, and continually shewing them that they have a common interest in upholding the character of their colleagues. Second only in usefulness to the sacred characters that minister truth to the mind, we may, by order and combination, based on a sense of justice and moderation, towards the working community, become most respectable and influential. High professional profits must always be paid only by the higher orders; it is enough, if the poor can be made by any means able to pay us for skill and labour, and the aggregate of small sums appears their only means of paying at all; when the poor are once medically provided, we shall be able to charge more uniformly and systematically for skill and attendance on those above them. Besides these there are many other matters which can only be satisfactorily inquired into by the united assistance of the different branches of the profession, who are here assembled, not less for the promotion of science and the service of mankind, consequent upon such improvement, than they are for the promotion of concord, and that elevation of character which constitutes the true wealth of the profession.

The resolution proposed by Mr. Griffiths was then put and carried unanimously.

Mr. Wickham (of Winchester) proposed that Dr. Forbes, of Chichester, and Dr. Bullar, of Southampton, be requested to draw up a report on the actual state of our knowledge of the pathology of continued fever, and to present it to the Anniversary Meeting at Manchester.

Dr. Luard (of Leamington) seconded the resolution, which was carried unanimously.

Dr. Robertson (of Northampton) proposed that Dr. Thomson, of Stratford, be requested to draw up a report upon the chemical and therapeutical properties of Iodine and its compounds, and present it to the Anniversary Meeting at Manchester.

Mr. Morris (of Worcester) seconded the resolution, which was carried unanimously.

Dr. W. Connolly (of Cheltenham) said he had only deeply to regret that the motion he was about to propose, had not fallen into the hands of some gentleman more capable of doing it justice than himself. He had, however, this satisfaction that he was quite sure it would be received with universal approbation. He would now move that the thanks of this meeting be given to the Trustees of the Radcliffe Library, to the Dean and Chapter of Christ Church, to the Keeper of the Ashmolean Museum, to the Professors of Botany and Mineralogy, and to the Bodleian Librarian, for their kindness in having so handsomely afforded accommodation, and thrown open their collections to the Association.

Mr. Griffith (of Wrexham) seconded the resolution, which was carried unanimously.

The President, at the suggestion of Dr. Hastings, having left the chair, was succeeded by Dr. Johnstone.

Dr. Hastings said he had requested Dr. Johnstone to take the chair, in order that the meeting might do honour to Dr. Kidd. He (Dr. Hastings) had taken this motion into his own hands, because he had had more experience of the kindness, the activity, the continual exertion, and the desire of that gentleman to promote the success of this very happy and useful meeting. As the Secretary of the Association, he had, of course, frequently communicated with Dr. Kidd during the last twelve months, and he would assure the meeting that on all occasions he had shewn a degree of zeal on

behalf of the Association, which did him infinite honour, and which had been singularly instrumental in producing the happy result which had been this day witnessed, and but for those zealous exertions, he (Dr. Hastings) did indeed believe that the result of the meeting this day would have been far different from what it had been. He thought it most fortunate that there existed in the University of Oxford, a gentleman who held the distinguished situation of Professor of Physic, so alive to the spirit of the times, and who saw how desirable it was by every possible means to advance the progress of knowledge generally, and medical science more particularly. In conclusion he begged leave to move that the thanks of the meeting be presented to our able and excellent President, Dr. Kidd, for his conduct in the chair.

Mr. Addison (of Malvern) seconded the resolution, which was carried unanimously, and with great applause.

Dr. Kidd said gentlemen, if I were the Vice Chancellor, I should say, "*Dissolvimus hanc convocationem.*"

The Meeting then broke up.

In the afternoon the members and their friends to the number of 200, sat down to dinner at the Star Hotel.

# REPORT OF THE PROCEEDINGS

AT

A MEETING FOR THE FORMATION

OF AN

# EASTERN PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

---

THE *Cambridge Chronicle*, of September the 18th, 1835, contained the following Requisition :—"We, the undersigned, feeling that it is desirable to establish a Society of the above denomination, request those Gentlemen of the Faculty, residing in the counties of Norfolk, Essex, and Suffolk, and also in Cambridgeshire, Lincolnshire, and Huntingdonshire, who are willing to promote the measure, to meet at the Angel Inn, Bury St. Edmund's, at one o'clock, on Friday, the 25th day of September instant, for the purpose of setting on foot the said Society."

## CAMBRIDGESHIRE.

CAMBRIDGE.

J. Haviland, M.D.
F. Thackeray, M.D.
H. I. H. Bond, M.D.
C. Lestourgeon.
J. Okes, M.B.
A. S. Abbott.
J. J. Cribb.
T. F. Ficklin.
H. Headley.
C. Newby.
R. M. Fawcett.
J. L. Sudbury.
C. D. Yorke.
C. Lestourgeon, jun. M.A.
F. A. Catty.
A. W. Thurnall.
W. W. Fisher, M.B.
G. Johnson.

## SUFFOLK.

BURY.

F. G. Probart, M.D.
W. Bayne, M.D.
C. C. Smith.
G. Creed.
J. Dalton, jun.
P. Macintyre.
P. Young.
J. Dalton.
H. Wing.
G. Hubbard.
F. G. Pyman.
T. O. Dobson.
W. C. Image
R. H. Harris, Botesdale.
W. Green, Ixworth.
W. Morgan, Hopton.
J. Slater, Woolpit.
J. C. Slater, Woolpit.

WOODBRIDGE.

G. Lynn, M.D.
W. Welton.
S. Gissing.
N. Moore.
G. Helsham.

BECCLES.

W. H. Crowfoot.
H. T. Davey.
H. W. N. Davey.
W. E. Crowfoot.

SAXMUNDHAM.

R. Freeman.
B. C. King.
W. Worthington, Lowestoft.
J. J. Hallett, Yoxford.
W. Mason, Sudbury.
W. B. Smith, Sudbury.

IPSWICH.

A. W. Baird, M.D.
E. Beck, M.D.
W. B. Clark, M.D.
G. Bullen.
C. C. Hammond.
A. H. Bartlett.
J. O. Francis.
G. Sampson.
T. King.
W. Mumford.
I. Barker.
N. Drake, M.D. Hadleigh.
G. Mudd, Hadleigh.
J. G. Growse, Hadleigh.
J. G. Daniel, Nayland.
E. Liveing, Nayland.
R. Growse, Bildestone.
C. R. Bree, Newmarket.
R. G. Peck, Newmarket.
J. Ross, M.D. Newmarket.
J. Bedinfield, Stowmarket.
R. Faircloth, Stowmarket.
G. King, Hartest.
R. Jones, Melford.
R. Cream, Melford.
R. C. Cream, Melford.
R. Martin, Holbrook.
W. Muriel, Wickham Market.
T. W. Lankester, Laxfield.
W. Jeafferson, Framlingham.
J. Beales, Halesworth.

## NORFOLK.

NORWICH.

W. Wright, M.D.
L. Evans, M.D.
W. Dalrymple.
J. G. Crosse.
P. N. Scott.
W. England, M.D.
B. H. Norgate.
J. G. Johnson.
J. Borrett, M.D.

W. G. Gowing
T. Tweedale, M.D. Lynn.
J. Wayte, M.D. Lynn.
J. B. Whiting, Lynn.
T. Bullen, Lynn.
W. Johnson, Lynn.
H. Howard, Buckenham.

YARMOUTH.

G. Penrice, M.D.
W. T. Cox, M.D.
G. Borrett.
C. Costerton.
W. S. Ferrier.
H. Worship.
C. B. Dashwood
H. W. Best, Thetford.
J. Young, Wells.
W. Mines, Diss.
J. Wharton, M.D. Diss.
P. L. Harrison, Diss.
R. Swallow, Watton.
H. W. Bailey, Thetford.
C. Hunter, Downham.
G. Wales, Downham.

## ESSEX.

COLCHESTER.

R. D. Mackintosh, M.D.
R. Nunn, M.D.
C. Boatflower.
A. Partridge.
W. Waylen.
S. A. Filbrick.
D. Morris.
J. M. Churchill.

CHELMSFORD.

H. Miller, M.D.
J. C. Badley, M.D.
R. Cremer, jun.
Thomas King.
T. Tomkins, Witham.
H. Dixon, Witham.
B. Symonds, Bures.
D. L. Manthorp, Thorpe.
W. R. Barlow, Writtle.
P. Havers, Wivenhoe.
J. Thompson, Manningtree.
George May, Maldon.
J. Godfrey, Coggeshall.
W. Johnson, Coggeshall.
D. A. B. Haynes, Coptford.
B. Gilson, Halstead.
S. Rodrick, Halstead.
J. Taylor, Halstead.

### PROCEEDINGS AT THE MEETING.

Pursuant to the above Requisition, a meeting was held on Friday, September the 25th, 1835, at the Guildhall, Bury St. Edmund's, for the purpose of forming the above Society. Upwards of seventy gentlemen of the profession from the town, neighbourhood, and adjoining counties of Cambridge, Norfolk, and Essex, were present, among whom were many of the most eminent gentlemen of the faculty in the district.

It was proposed by DR. EVANS, of Norwich, and seconded by DR. BAIRD. of Ipswich, that Dr. Probart, of this town, should take the chair.

DR. PROBART said, that in opening the proceedings of the

meeting, he did not consider it necessary to trespass on their time, as there was much business to be attended to. He believed gentlemen were all aware, that this meeting originated in the insertion of a letter in the public papers from an influential person now present. The call had been responded to in a most gratifying manner, and there could be but one opinion as to the general utility of such a Society. Resolutions had been prepared, and he should be happy to hear the remarks of those gentlemen to whom they were entrusted. He concluded by reading the requisition.

Mr. Crosse, of Norwich, addressing the chair said, after your very appropriate opening of the business of this meeting, I beg permission to address a few words to you, and the numerous gentlemen present; and I seek this privilege, from having been, as you have kindly stated, the individual—and, as I wish to express it—considering the important occasion, the humble and very inefficient individual to set in motion the simple means for bringing us together. (Applause.) I am desirous briefly to allude to some circumstances which have caused us to assemble on this spot; and which may, I conceive, facilitate an understanding of the purposes contemplated. We are very much the creatures of imitation, it being far easier to follow than to invent. Above a dozen years ago was formed "*An Association of German Naturalists and Physicians*," which first assembled at Leipsic, and changing annually the place of its meeting, visited Berlin, Vienna, Heidelberg, Frankfort, Hamburgh, and some other towns of note. These annual scientific meetings have continued uninterruptedly—the last having been held in the present month, with undiminished gratification, at Bonn; and they have undoubtedly conduced greatly to the improvement of the natural sciences, of which medical men are always found the most zealous promoters. Numerous learned men from this kingdom, including many eminent Physicians and Surgeons, have annually attended the meeting of the *German Association*, and, among the fruits of this intercourse, we may trace the origin of "*The British Association for the Advancement of Science*,"—a society first instituted about four years ago, at York, successively holding its annual meetings at Oxford, Cambridge, Edinburgh, and terminating the brilliant work of its fifth meeting lately in Dublin. It would seem that this society is destined to raise the character of our countrymen throughout Europe; it has increased in numbers, and still more in beneficial results yearly; and has, indeed, spread a fresh ardour in the

pursuit of science throughout the British dominions. The proceedings of its medical section at the recent meeting—so fully recorded in the last number of "the Dublin Journal of Medical and Chemical Science," have brought much native talent into activity, whilst the funds of the society have been liberally voted to physiological researches, determining questionable points, and establishing facts, that come home to every well-exercised practitioner, by bearing directly on the diagnoses of certain diseases. Out of the "British Association," another has arisen more interesting to us collectively, from being exclusively medical, and embracing a less extent of district—it arose the first year after the British Association, which served as its model. I allude to the "Provincial Medical and Surgical Association," instituted at Worcester, in 1832, at the suggestion, and mainly through the personal efforts of Dr. Hastings.* The first of its anniversaries was held at Bristol, the next successively at Birmingham and at Oxford; and by reports called for, and communications voluntarily furnished, a valuable volume of *Transactions* has appeared yearly, the fourth being now in the press; and I believe it is correct to state, that this is the only series of *Transactions* devoted to medical topics, that has ever been published in England out of the metopolis. This society enrols 500 members, but having originated in the West, it has failed to enlist many gentlemen in this Eastern and remote district, although intended to apply to the whole kingdom. About 200 of its members assembled in July last, at Oxford, in which delightful city—the hallowed seat of learning and the Muses from earliest time,—the medical profession received from the heads of colleges and other eminent personages, the same distinguished attention as had been paid three years before to the members of the "British Association." The proceedings of the Provincial meeting at Oxford, have been so amply reported in the weekly journals, that

* The formation of the Provincial Medical and Surgical Association cannot be said to have arisen out of the British Association for the Advancement of Science. The plan was formed before the existence of the British Association was known to those who founded the Medical Association. The manner in which the *Medical and Surgical Reporter* was supported by the Provincial Profession, was the chief cause which led to the idea of an extensive plan of co-operation being carried on in the Provinces, for the advancement of medical science.—C. H.

every gentleman now present must be somewhat acquainted with them. Before I attended that meeting, I had the opportunity of avowing my opinion, in the presence of a very large number of professional gentlemen in this town, that the Eastern counties should join to form a Medical Association on an extensive scale. I had also twice avowed the same opinion, at a year's interval, to an assembly of medical gentlemen at Norwich. I was, however, slow to make a movement in so arduous an undertaking, from fearing, *not the labour*, but the difficulties of another sort which I might have to encounter; a gentleman in this county, to whom I feel bound to allude, having made a fruitless attempt. It would be the highest presumption in me to attribute the numerous signatures to the requisition for this meeting to any other than its evident cause—*the conviction each of us feels of the necessity of taking some step for supporting the high character and watching over the interests of our profession, and for diffusing acquaintance and good fellowship*. We cannot follow the British Association in its wider range, and travel to *Edinburgh* or *Dublin;* few of us can even so far desert our daily avocations, as to meet the "Provincial Medical and Surgical Association" at Bristol, Manchester, or other of the large towns of England; but we are social, and scientific; therefore must we have our "*Eastern Association.*" (Applause.) In the six adjoining counties, from nearly all of which I see some gentlemen present; in this extensive tract of country, there are about a million and a half of inhabitants. Shall we stretch our minds to calculate what occurrences, in the way of disease, yearly present themselves amidst such a population? and are more than a few isolated cases in the course of each year, turned to public advantage through the press in the whole district? In the counties referred to, not less than 1000 medical men reside, not half of whom, I feel assured, belong to the "British Association," and less than that number, I believe, are members of the "Provincial Medical and Surgical Association." Taking this view, we have an extensive, fruitful, but uncultivated soil, as to medical science. If, then, we enlist in an association for scientific purposes only, a small proportion of the medical population of the six counties, it will be an entirely new creation; and, judging from the effect of the associations preceding us, must bring forward the hidden experience of many, and awaken into fresh action and energy, a valuable body of labourers in the noble calling we profess. The medical statistics of

each county, as to climate, geology, and the diseases, epidemic, local, or peculiar, will furnish much new and interesting matter. Medico-legal science may be promoted by close attention to inquests. The district contains many county hospitals, and dispensaries are still more numerous; reports of the practice of such institutions will be for the first time produced. But, above all, we may contemplate the influence of numbers, amongst whom there are always some well stored in original knowledge. Every man of experience in practice meets with something that might prove profitable, if communicated to his brethren. Let us offer to each a channel of such communication, either verbally at our meetings, or in writing, through our *Transactions*. During my 25 years' practice amongst you, I have known many enlightened, able, and zealous practitioners, though often in very retired situations. I have seldom met with any man of common intelligence, who had not something of his own to communicate worth knowing. Many cases have been briefly told me, of which I took no note; and they have died with their original possessors. It is surely no vain hope that the Association we are met together to form, may be the means of gathering some such cases into a storehouse of public knowledge. Both the tool and the materials are offered us; shall we fail to use the one, and form the others, when alleviating the sufferings of humanity, is the motive and reward of our labours? Permit me, Sir, to glance at one more topic—the effect of assemblies of gentlemen of our profession, of different grades as to age and station, and of different and very varied capacities. Such intercourse is suited not only to generate kindly feelings, and promote mutual good understanding, but consoles us in our solitary hours—each man returns home refreshed for his arduous duties after converse with his brethren. The feelings arising in this meeting, when so many men of different counties see each other for the first time,—when Norfolk shakes hands with Essex, and Cambridge with Suffolk,—will be recollected for years to come with satisfaction and advantage. Can any man be so lost in apathy as to entertain a doubt upon the subject? But I have said enough—I will purposely abstain from making a stronger appeal, which my ardent feelings would lead me to indulge in; and thanking you most sincerely for a patient hearing, I leave in the hands of numerous gentlemen, more able than myself, and not less zealous, the moving of the several resolutions. (Applause.)

Dr. Probart said, the meeting felt greatly indebted to Mr. Crosse for his able address.

Dr. Evans said, that the objects of this society had been so fully explained by Mr. Crosse, that he did not deem it necessary to enter any further into them; he would only remark, that it must be obvious that the formation of such a society could not fail of proving highly beneficial not only to the Profession, but the community at large. He, therefore, felt pleasure in proposing the first resolution.

That the Society, consisting of Physicians, Surgeons, or general Practitioners, residing in the counties of Cambridge, Essex, Huntingdon, Lincoln, Norfolk, and Suffolk, or in other parts of the kingdom, is established for collecting useful information in Medicine and its collateral sciences, with a view to publication; and also for maintaining the respectability of the Profession, by promoting friendly intercourse and free communication between its members.

Mr. Abbott, of Cambridge, in seconding this resolution, said there was one feature in this society peculiarly gratifying to him, that of being the means of bringing so many gentlemen together from different places, into friendly intercourse with each other.

This resolution was carried unanimously.

Mr. Jeafferson, of Framlingham, proposed—

That an annual subscription of One Guinea be paid in advance.

Mr. Peck, of Newmarket, seconded the resolution; which was carried unanimously.

Dr. Baird begged to preface the resolution he was about to propose by a remark or two. He said it could not fail to be pleasing to observe the alacrity with which *the case*, made by the gentleman who had so ably and eloquently addressed them, had been responded to; it was high time that medical gentlemen should arouse, and strive to become useful to the profession: he did not mean to infer that gentlemen in their provinces had been inactive or deficient, on the contrary, he knew there were many who had distinguished themselves, but generally speaking, being as it were *rari nantes in gurgite vasto*, they laboured under disadvantages arising from a want of co-operation; he hoped the formation of this society would tend in a great measure to remove that evil; and that henceforth the medical character would stand amply redeemed in the eyes of the public. He begged to propose—

That the funds of the Society, after payment of unavoidable

expenses in printing and advertising, &c. be applied to publishing, in the form of *Transactions*, all such essays, memoirs, cases, or reports of public Institutions, as may be thought worthy of publication.

Dr. Fisher, of Cambridge, seconded the resolution, and approved of the society, because it would furnish an opportunity of conveying their opinions to others.

This resolution was also carried unanimously.

Mr. Borrett, of Yarmouth, proposed—

That a General Meeting be held annually, at one of the principal towns of the counties specified; and that the First General Meeting shall take place at Ipswich, on the first Monday in June next.

Dr. England, of Norwich, seconded the resolution, and said he fully coincided in the principles of centralization; he thought it highly desirable that strenuous efforts should be made to improve the Provinces, or, as railroads were becoming so general, we might soon expect to see patients travel by steam to consult the physicians in London. He hoped when the society was fully organised, it would "bring forth fruit in due season."

Dr. Fisher thought the time specified would be inconvenient to those gentlemen of the profession residing at Cambridge.

Mr. Crosse said, it would be impossible to fix a time which would be convenient to all parties, the period chosen had been selected with a view to accommodate the profession in general, but, as it stood, it referred to the first meeting only, subsequent alterations might be made, if the society deemed it necessary. In reply to a question from Dr. Wayte, he said he thought the general meeting ought to take place *prior* to that of the Provincial Association, at Manchester, because a deputation could then be appointed to go from the branch, to the parent institution. The reason we do not propose to go next year to Cambridge, is, that contemplating the junction of the two societies, that noted University will, probably, be selected for the place of meeting of the united members, in 1837.

Considerable discussion arose upon this point, but ultimately Dr. Fisher waived his objection, and the resolution was carried unanimously.

Dr. Wayte felt some difficulty in addressing such a numerous assembly of his brethren; he congratulated them on the object of their meeting—the formation of a Medical Society. Such an asso-

ciation, he thought, would tend to keep up the respectability and honour of the profession; it would also promote a greater union and better feeling among its members: little things between each other would be overlooked; the intellectual characters of others would also be improved; and an opportunity would thus be afforded of defending their rights and privileges. The last object, he begged to say, was of vital importance: he was not a general practitioner now, but he had been, and therefore could enter into the feelings of those gentlemen on this subject: their calling, he knew, was one of a laborious and arduous nature, in which they were often compelled to sacrifice their own health and comfort for the good of others. That profession was not only now invaded by the itinerant quack—by the regular quack—but more recently by Acts of Parliament: the Commissioners under the new Poor Law Act, aided by the overseers, appeared as if they were determined to grind the medical man to powder. The overseers and guardians of the poor ought to know better than to compel medical men to send in tenders for such a purpose, and on such degrading terms. He thought their profession justly entitled to the protection of the government; let them meet for that specific purpose; let them petition, and he had no doubt their voices would be heard by the Legislature. (Applause.) He was acquainted with several gentlemen in the Western Association, who shone as *stars* in the *Western* hemisphere—why should there not, he asked, be *stars* in the *Eastern* hemisphere also, after the formation of this society; he anticipated great good to result from it, and hoped, in future, no talent would be buried in a napkin. They had only to study and to persevere, and they had nothing to fear. Dr. W. concluded by moving—

That a Council, composed of not more than one-fourth of its members, do conduct the general business of the Society, and meet in Norwich quarterly, or more frequently, as the business of the Society may require.

Mr. Bailey, of Thetford, seconded the resolution; which was also carried unanimously.

Mr. Waylen, of Colchester, proposed—

That a President, two Vice-Presidents, a Treasurer, and a Secretary, be annually elected, and be members *ex-officio* of the Council and of all Committees.

Mr. Creed, of Bury, in seconding the resolution, said he had

no wish to enter on an irrelevant discussion, but he felt bound to allude to one expression which fell from Dr. Wayte, in reference to a recent Act of Parliament invading the just rights of the profession. He thought there was nothing to fear from that quarter. Let medical gentlemen follow up the idea expressed in the resolution, to uphold the honour of the profession, for who degraded it more than themselves? Let the physician, the surgeon, and the general practitioner, adhere to each other, and they had nothing to fear. (Applause.)

Mr. Headley, of Cambridge, said it appeared to him that both Dr. Wayte and Mr. Creed were labouring under a wrong impression upon this subject. He believed it was not the wish of the Commissioners to make such degrading proposals. He knew one of them (Mr. Le Fevre) and had had conversation with him on this subject, from which he was induced to believe that the fault did not rest with them, but rather with the overseers and guardians of the poor.

Dr. Wayte and Mr. Creed said a few words in explanation; and the resolution was then carried.

A lengthened discussion arose between several gentlemen as to the appointment of officers for the next meeting at Ipswich; the following gentlemen were ultimately selected:

Dr. Baird to be President, who in appropriate terms acknowledged the honour conferred upon him, and said, in the discharge of the duties devolving upon him, he must crave the indulgence of the society.

Mr. Crowfoot, of Beccles, and Mr. Bullen, of Ipswich, to be Vice-Presidents.—Mr. Crowfoot, jun. said his father would feel much flattered and gratified by the mark of distinction thus conferred upon him.

Mr. Crosse to be Secretary, who, in consequence of other gentlemen declining, consented also to be Treasurer *pro tempore*.

Dr. Lynn, of Woodbridge, proposed—

That the Council do assemble at Norwich in January next, to receive the names of all such members as may signify their intention to join the society; and to inspect and consider all such papers, reports, &c. as may have been communicated to the Secretary by different members.

Mr. Headley seconded the resolution, and said he thought Norwich a suitable place, because it was the residence of their

steam engine, (if indeed, he might be allowed the expression) which had set the mechanism of the society in motion.

Dr. Beck proposed--

That a Committee of five be appointed to draw up a Code of Laws and Regulations for the Society, to be laid before the General Meeting, at Ipswich; and that the same Committee do make out a list of the first Members of the Council.

Mr. Mines, of Diss, seconded the resolution.

Mr. Macintyre, proposed the next resolution. In doing so he observed that it embraced one of the principal objects of their association. It was not to be expected that in a district like this, the society would be able to amass funds sufficient to carry into operation the scientific purposes which were most desirable to be effected. It could hardly be expected for instance, that their subscriptions would enable them to publish annually, such transactions and histories as were necessary to promote a scientific interest in the society. By joining in one common object with the Western Association, they might easily effect this object, and at the same time that they were enabled to record their own proceedings, be put in profitable possession of those of that prosperous and valuable association.

That a committee of five be chosen to prepare a *plan* for effecting a junction of the present society with the Provincial Medical and Surgical Association, instituted at Worcester, and to submit *it* to the General Meeting at Ipswich.

Mr. Le Neve, of Barrow, felt pleasure in seconding it, and said he conceived many advantages would be derived by the society, from an amalgamation with that at Worcester.

Dr. Fisher wished to know whether after such an "amalgamation," this society would exist as a separate society?

Mr. Waylen considered it would, in the character of an auxiliary or branch of the parent institution.

Dr. Evans said when the proposition to join this society was first made to him, he assented under the impression that the two societies would be fused into one, and unless that were the case, there could not be, properly speaking, an "amalgamation." He had been some time a member of the Worcester Association, and he thought those gentlemen who were already members of that association, ought not to be called upon to pay two subscriptions; those who knew him would give him credit for stating, that what

he said was not with regard to himself, he would cheerfully pay two or more if they pleased; and he should feel no hesitation in complying with the decision of the meeting, whether they decided on forming one, two, or a dozen societies.

Mr. Crosse said in some respects the two societies would be united, in others they would be separate; in the appropriation of funds they were in common; in annual meetings they would be separate, excepting when the Worcester Association came into their district, then they would unite of course, and the same would be the case when their society went into the other district; but these arrangements would devolve upon the committee. Their society being only in a state of infancy, would, he thought, derive many advantages by the union; facilities would be thus afforded for the publication of all transactions; for these and other useful purposes the junction would be principally effected.

The following gentlemen were then appointed as a committee, in accordance with the resolution:—Dr. Haviland, of Cambridge; Dr. Baddeley, of Chelmsford; Dr. Nunn, of Colchester; Dr. England, of Norwich; and Mr. C. Smith, of Bury.

Mr. Muriel, of Ely, proposed—

That an advertisement be inserted in each of the County Papers in which the requisition appeared, briefly stating the acts of the meeting; and that the resolutions be printed and circulated generally amongst the Faculty in the Eastern counties, accompanied by an address more fully explaining the objects of the society, and calling the attention of all enlightened and respectable practitioners towards its support.

Mr. Bedingfield, of Stowmarket seconded the resolution.

Dr. Beck proposed that at the next annual meeting, the society should consider the propriety of engrafting a provident society on the Association.

Mr. Abbott seconded it.

Mr. Macintyre said that with every respect for Dr. Beck's benevolent object, and having no abstract objection to the proposition itself, he was yet impelled from various good reasons, to meet it with a direct negative. In the first place the proposition was not compatible with the objects of this meeting. In the second place, it appeared to him wholly impracticable; in the third place, it must necessarily involve an increase of subscription not at pressnt contemplated; and in the fourth place, it was, in his opinion, uncalled

for. In Suffolk, Norfolk, Essex, and he believed in other counties in the district which it was proposed their Association should embrace, there were already societies existing, and some of them—he could speak for that of Suffolk—though not so well supported either by the profession or the community as they deserved to be—as dispensing great relief to many indigent and reduced persons. He would recommend that instead of attempting to form a Benevolent Society, which no management, however zealous and active, could effectively, or with advantage, direct and control, that those gentlemen who had not joined the excellent societies in their respective districts, should take the first opportunity of doing so.

Mr. Abbott said that they had no such society in Cambridgeshire, and he still thought that the present afforded a desirable opportunity for instituting such a society as Dr. Beck's resolution contemplated.

Mr. Macintyre was sure that if Mr. Abbott would put his shoulder to the wheel, they might soon have a valuable society of that kind in Cambridgeshire.

Dr. Evans concurred in the objections taken to Dr. Beck's resolution by Mr. Macintyre, and entered at some length into an able argument against it. The sense of the meeting being ascertained to be against the resolution, Dr. Beck withdrew it.

Mr. Crosse said it would be desirable that those gentlemen who had any papers or reports intended for publication, should forward them as early as possible to the Council to be held in January next.

Dr. Baird then moved a vote ot thanks to Dr. Probart for presiding at the meeting, and Mr. Le Neve also proposed a vote of thanks to Mr. Crosse for his efficient services, both which were carried with acclamation.

Fifty-six of the gentlemen who had assembled in the morning, afterwards dined together at the Angel Inn, Bury.

# OFFICERS AND COUNCIL

OF THE

# PROVINCIAL

# MEDICAL AND SURGICAL ASSOCIATION.

---

PRESIDENT.

J. KIDD, M.D. F.R.S.

*Regius Professor of Physic in the University of Oxford.*

PRESIDENT-ELECT.

EDWARD HOLME, M.D. MANCHESTER.

PERMANENT VICE-PRESIDENTS.

EDWARD JOHNSTONE, M.D. BIRMINGHAM.

ANDREW CARRICK, M.D. CLIFTON.

JOHN JOHNSTONE, M.D. F.R.S. BIRMINGHAM.

SECRETARIES.

CHARLES HASTINGS, M.D. F.G.S.

*Physician to the Worcester Infirmary.*

JAMES P. SHEPPARD, ESQ.

*Senior Surgeon to the Worcester Infirmary.*

---

## MEMBERS OF THE COUNCIL.

AMERSHAM.

J. Rumsey, M.D. Amersham, Bucks.

BATH.

Edward Barlow, M.D. Senior Physician to the Bath United Hospital, and to the Bath Hospital, &c.

Edward Blackmore, M.D. Bath.

Richard Francis George, Esq. Surgeon to the Bath Hospital.
R. T. Gore, Esq. Surgeon and Lecturer on Anatomy, Bath.
George Edmund Hay, Esq. Surgeon, Bath.
George Norman, Esq. Surgeon to the Bath United Hospital.
John Ormond, Esq. Surgeon, Bath.
John Smith Soden, Esq. Surgeon to the Bath United Hospital, to the Bath Eye Infirmary, and to the Bath Penitentiary.
William Tudor, Esq. Senior Surgeon to the Bath Hospital.
Thomas Sandon Watson, M.D. Bath.
James Woodman, M.D. Bath.

BIRMINGHAM.

J. M. Baynham, Esq. Surgeon to the Birmingham Town Infirmary and General Dispensary.
John Key Booth, M.D. Physician to the General Hospital, Birmingham.
Wm. Sands Cox, Esq. Surgeon, and Lecturer on Anatomy, Birmingham.
G. F. Evans, M.B. Birmingham.
Joseph Hodgson, Esq. Surgeon to the General Hospital, Birmingham.
James Johnstone, M.D. Physician to the General Hospital, and Lecturer on Materia Medica and Therapeutics, Birmingham.
Richard Middlemore, Esq. Assistant Surgeon to the Birmingham Eye Infirmary.
George Parsons, Esq. Surgeon to the Town Infirmary, Birmingham.
Thomas Ogier Ward, M.D. Birmingham.
Joseph Wickenden, Esq. Surgeon, Birmingham.
Richard Wood, Esq. Surgeon to the Birmingham General Hospital.

BRIGHTON.

T. J. Todd, M.D. Physicican to the Dispensary, Brighton.

BRISTOL.

Henry Clarke, Esq. Lecturer on Anatomy, Bristol.
Henry Hawes Fox, M.D. Bristol; late Physician to the Bristol Infirmary.
George D. Fripp, Esq. Surgeon to the New General Hospital, and Lecturer on Materia Medica, Bristol.
William Hetling, Esq. Clifton, Bristol; Surgeon to the Bristol Infirmary, and Lecturer on Surgery.
William F. Morgan, Esq. Surgeon, Bristol.

William Mortimer, Esq. Surgeon, Clifton, Bristol.
James Cowles Prichard, M.D. Senior Physician to the Bristol Infirmary.
Henry Riley, M.D. Bristol; Senior Physician to St. Peter's Hospital, and Lecturer on Anatomy.
Richard Smith, Esq. Bristol; Senior Surgeon to the Bristol Infirmary.
J. A. Symonds, M.D. Physician to the General Hospital, and to the Dispensary, and Lecturer on Forensic Medicine, Bristol.
George Wallis, M.D. Bristol; Physician to the Bristol Infirmary, and Lecturer on Anatomy.

CAMBRIDGE.

Frederic Thackeray, M.D. Cambridge.

CARLISLE.

Thomas Barnes, M.D. F.R.S.E. Physician to the Carlisle Dispensary and Fever Hospital.

CHELTENHAM.

James Allardyce, M.D. Physician to the Cheltenham Dispensary and Casualty Hospital.
John Baron, M.D. F.R.S. Cheltenham.
Henry C. Boisragon, M.D. Cheltenham.
William Conolly, M.D. Cheltenham.
James Mc Cabe, M.D. Physician to the Dispensary and Casualty Hospital, Cheltenham.
Charles Seager, Esq. Surgeon, Cheltenham.

CHESTER.

T. Bagnall, Esq. Surgeon to the Chester Infirmary.
Richard Phillips Jones, M.D. Physician to the Infirmary, Chester.
William Thackeray, M.D. Chester.

CHICHESTER.

A. T. S. Dodd, Esq. Surgeon to the Infirmary, Chichester.
John Forbes, M.D. F.R.S. Physician to the Infirmary, Chichester.

DROITWICH.

John B. Steward, M.D. Fellow of the College of Physicians, Lunatic Asylum, Droitwich.

EXETER.

J. Blackall, M.D. Physician to the Exeter Hospital.
J. H. James, Esq. Surgeon to the Exeter Hospital.

GLOUCESTER.

Henry Carden, Esq. Surgeon to the Gloucester Dispensary.
Thomas Evans, jun. M.D. Physician to the Gloucester Infirmary.

HEREFORD.

John Griffiths, Esq. Surgeon to the Infirmary, Hereford.
J. Bleeck Lye, M.D. Hereford.

HUDDERSFIELD.

J. K. Walker, M.D. Physician to the Huddersfield Infirmary.

LEAMINGTON.

D'Arcy Bolton, Esq. Surgeon to the General Infirmary, Leamington.
Peter Francis Luard, M.D. Physician to the General Infirmary, Leamington, and Licentiate of the College of Physicians.
Owen W. Williams, Esq. Surgeon, Leamington.

LEEDS.

William Hey, Esq. Surgeon, Leeds.

LEICESTER.

Thomas Paget, jun. Esq. Surgeon, Leicester.
George Shaw, M.D. F.L.S. Fellow of the College of Physicians, Leicester.

LIVERPOOL.

Joseph Pilkington Brandreth, M.D. Senior Physician to the Liverpool Infirmary.
James Dawson, Esq. Surgeon to the Liverpool Infirmary.
Thomas Jeffreys, M.D. Liverpool.
John Rutter, M.D. Liverpool.
Roger Scott, M.D. Physician to the South Dispensary, Liverpool.

LUDLOW.

Thomas Lloyd, M.D. Physician to the Dispensary, Ludlow.

MALVERN.

Wm. Addison, Esq. F.L.S. Surgeon to H. R. H. the Duchess of Kent, Malvern.

MANCHESTER.

James L. Bardsley, M.D. Physician to the Manchester Royal Infirmary, &c. &c.
Wm. Charles Henry, M.D. Physician to the Infirmary, Manchester.
Edward Holme, M.D. Manchester.

Thomas Radford, Esq. Surgeon Extraordinary to the Manchester Lying-in-Charity, and Lecturer on Midwifery and the Diseases of Children.

John A. Ransome, Esq. Senior Surgeon to the Manchester Royal Infirmary, and Lecturer on the Principles and Practice of Surgery.

Thomas Turner, Esq. Surgeon to the Manchester Royal Infirmary, and Lecturer on Anatomy and Surgery.

Jas. W. Wilson, Esq. Surgeon to the Manchester Royal Infirmary, &c.

MONMOUTH.

Robert Bevan, M.D. Physician to the Dispensary, Monmouth.

NORTHAMPTON.

Wm. Kerr, M.D. Physician to the Northampton Infirmary.

Archibald Robertson, M.D. Physician to the Northampton Infirmary.

NORWICH.

John Green Crosse, Esq. Surgeon to the Norfolk and Norwich Hospital, and Lecturer on Clinical Surgery; Member of the Royal College of Surgeons, and Fellow of the Royal Medical and Surgical Society of London; Corresponding Member of the Académie Royale de Medecine, et Société Médicale d' Emulation of Paris; formerly Demonstrator of Anatomy in the University of Dublin, &c. &c.

Lewis Evans, M.D. Physician to the Norfolk and Norwich Hospital.

OXFORD.

C. G. B. Daubeny, M.D. Professor of Chemistry and Botany in the University of Oxford.

C. Wingfield, Surgeon to the Oxford Infirmary.

Wm. Tuckwell, Esq. Surgeon to the Oxford Infirmary.

PRESTEIGN.

A. W. Davies, M.D. Presteign.

REIGATE.

Thomas Martin, Esq. Surgeon, Reigate.

SHEFFIELD.

J. Arnold Knight, M.D. Physician to the Infirmary, Sheffield.

SHREWSBURY.

George Goldie, M.D. Shrewsbury; late Physician to the York Hospital.

SOUTHAMPTON.

Joseph Bullar, M.D. Southampton.

STOCKPORT.

Richard Flint, Esq. Senior Surgeon to the Stockport Infirmary.

STRATFORD.

Thomas Thomson, M.D. Physician to the Stratford Dispensary.

ST. ASAPH.

Richard Bythell, Esq. Surgeon to H. R. H. the Duke of Sussex, St. Asaph.

SUNDERLAND.

Joseph Brown, M.D. Physician to the Sunderland and Bishop Wearmouth Infirmary.

SWANSEA.

George Gwynne Bird, Esq. Surgeon to the Swansea Infirmary.

WARWICK.

John Conolly, M.D. Warwick; late Professor of Medicine in the London University.

Thomas Hiron, Esq. Surgeon, Warwick.

Charles Wake, M.D. Warwick.

WINCHESTER.

Andrew Crawford, M.D. Physician to the Winchester Hospital.

G. H. Lyford, Esq. Surgeon to the Winchester Hospital.

W. J. Wickham, Esq. Surgeon to the Winchester Hospital.

WOLVERHAMPTON.

George Edwardes, Esq. Surgeon to the Wolverhampton General Dispensary.

Thomas Fowke, Esq. Consulting Surgeon to the General Dispensary, Wolverhampton.

Thomas Fowke, jun. Esq. Surgeon to the General Dispensary, Wolverhampton.

John Freer Proud, Esq. Consulting Surgeon to the General Dispensary, Wolverhampton.

WORCESTER.

Thomas Carden, Esq. Surgeon to the Worcester Infirmary.

John James Feild, M.D. Worcester.

Christopher H. Hebb, Esq. Surgeon, Worcester.

Jonas Malden, M.D. Senior Physician to the Worcester Infirmary.

James Nash, M.D. Physician to the Worcester Infirmary.
Matthew Pierpoint, Esq. Surgeon to the Worcester Infirmary.
John Rayment, Esq. Worcester.
Robert I. N. Streeten, M.D. Physician to the Worcester Dispensary.

WREXHAM.

T. Griffith, Esq. Surgeon, Wrexham, Denbighshire.

## HONORARY MEMBERS.

John Abercrombie, M.D. Edinburgh.

Sir Charles Bell, K.G.H. F.R.S. L. and E.

Sir Astley P. Cooper, Baronet, London.

T. S. Traill, M.D. Professor of Medical Jurisprudence in the University of Edinburgh.

## HONORARY CORRESPONDING MEMBERS.

John Frederick Dieffanback, M.D. Surgeon to the Charitè, and Professor of Surgery in the University of Berlin.

N. Lebeau, M.D. Physician in Ordinary to the King of the Belgians, First Physician to the Military Hospital at Brussels.
Henry Clermond Lombard, M.D. Joint Physician to the Hospital at Geneva.

Frederic Nasse, M.D. Professor of Clinical Medicine in the University of Bonn.
C. J. Nieuwenhuys, M.D. Amsterdam, Correspondent for Holland.

J. Scott, Esq. Colonial Surgeon, Hobart Town, Van Diemen's Land, Correspondent for Australasia.

Mates Seoane, M.D. Member of the Council of the University of Salamanca, and late Member of the Spanish Cortes, Correspondent for Spain.

## MEMBERS.

Isaac Aaron, Esq. Surgeon to the Birmingham and Deritend General Self-supporting Dispensary.

Wm. Addison, Esq. F.L.S. Surgeon to H. R. H. the Duchess of Kent, Malvern.

Thomas Agg, Esq. Surgeon to the Dispensary and Casualty Hospital, Cheltenham.

James Ainsworth, Esq. Surgeon to the Royal Infirmary, Manchester.

R. H. Alexander, Esq. Surgeon, Corsham, Wilts.

R. C. Alexander, M.B. Corsham, Wilts.

John Alexander, M.D. Physician to the Manchester General Dispensary for Children.

Henry Alford, Esq. Senior Surgeon to the Taunton and Somerset Hospital.

James Allardyce, M.D. Physician to the Cheltenham Dispensary and Casualty Hospital.

W. A. Andrews, Esq. Surgeon, Stanmore, Middlesex.

Charles Anthony, Esq. Surgeon, Clifton, Bristol.

J. G. Appleton, Esq. Surgeon, Evesham.

Robert Arrowsmith, M.D. Consulting Physician to the Coventry Self-supporting Dispensary.

Charles M. Ashwin, Esq. Surgeon to the Abergavenny General Dispensary.

James Ashton, M.D. Stockport.

John Badley, Esq. Surgeon, Dudley.

T. Bagnall, Esq. Surgeon to the Chester Infirmary.

Charles Bailey, Esq. Surgeon, Chippenham, Wilts.

Thos. Haines Banning, M.D. Physician to the Liverpool Infirmary.

James L. Bardsley, M.D. Physician to the Manchester Royal Infirmary, Dispensary, Fever Wards, Lunatic Hospital and Asylum; Lecturer on the Principles and Practice of Physic, Materia Medica, and Medical Botany, &c. &c.

Edward Barlow, M.D. Senior Physician to the Bath United Hospital, and to the Bath Hospital, &c.

Thomas Barnes, M.D. F.R.S.E. Physician to the Carlisle Dispensary and Fever Hospital.

Richard Barnett, Esq. Surgeon, Stourport.

John Baron, M.D. F.R.S. Cheltenham.

Edwin Bartleett, Esq. Surgeon, Birmingham.
Augustine W. Batt, Esq. Surgeon, Witney.
Thos. Batt, Esq. Surgeon, late Surgeon Royal Fusileers, Brecon.
F. C. Batt, Esq. Surgeon, Abergavenny.
J. M. Baynham, Esq. Surgeon to the Birmingham Town Infirmary and General Dispensary.
J. R. Beddome, Esq. Surgeon, Romsey, Hants.
Charles E. Bernard, M.D. Clifton, Bristol.
R. W. Bernard, M.D. Cheltenham.
William Chapman Begley, Esq. A.B. Trinity College, Dublin, Glossop Dale, near Manchester.
Robert Bevan, M.D. Physician to the Dispensary, Monmouth.
H. A. Bevan, Esq. Surgeon, Hereford.
George Gwynne Bird, Esq. Surgeon to the Swansea Infirmary.
Wm. Bealey, M.D. Physician to the Bath United Hospital.
Robert Bickersteth, Esq. Surgeon to the Liverpool Infirmary.
Edward Bicknell, Esq. Surgeon to the Self-supporting Dispensary, Coventry.
Archibald Billing, M.D. 5, Bedford Place, London.
Samuel Allen Bindley, Esq. House Surgeon to the General Hospital, Birmingham.
Richard Bird, Esq. Surgeon, Tamworth.
James Bisdee, Esq. Surgeon, Westown, Somersetshire.
J. Blackall, M.D. Physician to the Devon and Exeter Hospital.
Edward Blackmore, M.D. Bath.
Alfred Bleeck, Esq. Surgeon, Bristol.
William Blenkinsop, Esq. Surgeon, Warwick.
William Bodington, Esq. Surgeon, Kenilworth.
Henry C. Boisragon, M.D. Cheltenham.
D'Arcy Bolton, Esq. Surgeon to the General Hospital, Leamington.
George G. Bompass, M.D. Fishponds, near Bristol.
Francis Boot, M.D. F.L.S. Gower-street, London.
John Key Booth, M.D. Physician to the General Hospital, Birmingham.
Thomas Brayne, Esq. Surgeon, Banbury.
Thomas Bradley, Esq. Surgeon, Kidderminster.
Francis Braithwaite, Esq. Surgeon, Hereford.
Joseph Pilkington Brandreth, M.D. Senior Physician to the Liverpool Infirmary.

William Brewer, Esq. Surgeon, Newport, Monmouthshire.
Charles John Brickwell, Esq. Surgeon, Banbury.
Richard Broadbent, Esq. Surgeon, Altrincham, Cheshire.
John Brooke, Esq. Surgeon, Stockport.
H. H. Broughton, Esq. Surgeon, Dobcross, near Saddleworth.
Joseph Brown, M.D. Physician to the Sunderland and Bishop Wearmouth Infirmary.
John Brown, Esq. Surgeon, Southampton.
R. Wilson Brown, Esq. Surgeon to the Bath United Hospital, and Lecturer on Surgery.
Joseph Bullar, M.D. Southampton.
Thomas Burman, Esq. Surgeon, Henley-in-Arden.
Samuel Bucknill, Esq. Surgeon, Rugby.
John Burnall, Esq. Surgeon to the Infirmary, Chichester.
Edm. Sylvester Burnard, Esq. Surgeon, Crewkerne, Somersetshire.
—— Burridge, M.D. Barnstaple, Devon.
J. B. Burroughs, Esq. Surgeon, Clifton, Bristol.
G. F. Burroughs, Esq. Surgeon, Shepton Mallet, Somersetshire.
George Butcher, Esq. Surgeon, Melksham.
Richard Bythell, Esq. Surgeon to His Royal Highness the Duke of Sussex, St. Asaph.

Edward Callaghan, Esq. Surgeon, Weston Super Mare, Somerset.
—— Caldwell, Esq. Surgeon, Millbrooke.
Œneas Cannon, M.D. Physician to the Cheltenham Dispensary and Casualty Hospital.
Henry Capel, Esq. Surgeon, Cheltenham.
Thomas Carden, Esq. Surgeon to the Worcester Infirmary.
Henry Carden, Esq. Surgeon to the Gloucester Dispensary.
Andrew Carrick, M.D. (Vice-President) Honorary and Consulting Physician to the Bristol Infirmary, Marlwood, Gloucestershire.
Cornelius Cartwright, Esq. Surgeon, Dudley.
—— Cauty, Esq. Surgeon, Kenilworth.
Robert Ceeley, Esq. Surgeon, Aylesbury.
I. C. Chandler, Esq. Surgeon, Worcester.
John Chapman, Esq. Surgeon, Leamington.
Thomas Chavasse, Esq. Surgeon, Birmingham.
William Church, Esq. Surgeon; Consulting Accoucheur to the Charitable Society for the Relief of Lying-in-Women, Bath.
John Claridge, Esq. Surgeon, Pershore.

James Clark, M.D. F.R.S. Physician in Ordinary to His Majesty Leopold King of the Belgians, Physician to St. George's Infirmary, &c.

Henry Clarke, Esq. Lecturer on Anatomy, Bristol.

—— Chester, M.D. Birmingham.

John Clendinnery, M.D. Physician to the Marylebone Infirmary, 16, Wimpole Street, London.

W. O. Cleave, Esq. Surgeon, Clifton, Bristol.

William James Clement, Esq. Surgeon, Shrewsbury.

William Colborne, Esq. Surgeon, Chippenham, Wilts.

James Cole, Esq. Surgeon, Bewdley.

Herbert Cole, Esq. House Surgeon to the Worcester Infirmary.

Robert Cole, Esq. Garrison Assistant Surgeon, Madras,

R. W. Coley, M.D. Surgeon, R. N. late Physician and Surgeon of a Naval Hospital in India, Cheltenham.

J. M. Coley, Esq. Surgeon, Bridgnorth.

Robert Collins, Esq. Surgeon, Chew Magna, near Bristol.

John Colthurst, Esq. Surgeon, Clifton, Bristol.

Charles Cooke, Esq. Surgeon, Ledbury.

Joseph Cooke, Esq. Surgeon, Tenbury.

John Conolly, M.D. Warwick; late Professor of Medicine in the London University.

William Conolly, M.D. Physician to the Dispensary and Casualty Hospital, Cheltenham.

T. Beale Cooper, M.D. Evesham.

Oswald B. Cooper, Esq. Surgeon, Worcester.

George Corpe, Esq. Surgeon, Southampton.

John N. Corrie, M.D. Physician to the Birmingham General Dispensary.

Wm. B. Costello, M.D. Member of the College of Surgeons, Edinburgh, Bruton-street, London.

Wm. Sands Cox, Esq. Surgeon, and Lecturer on Anatomy, Birmingham.

—— Cox, M.D. Yarmouth.

Charles Cowan, M.D. Bath.

James Crang, Esq. Surgeon, Timsbury, Somerset.

David Crawford, Esq. Surgeon, Shrewsbury.

Andrew Crawford, M.D. Physician to the Winchester Hospital.

Stewart Crawford, M.D. Bath.

D. W. Crompton, Esq. Surgeon, Birmingham.

John Green Crosse, Esq. Surgeon to the Norfolk and Norwich Hospital, and Lecturer on Clinical Surgery; Member of the Royal College of Surgeons, and Fellow of the Royal Medical and Surgical Society of London; Corresponding Member of the Academie Royale de Medecine, et Société Médicale d' Emulation of Paris; formerly Demonstrator of Anatomy in the University of Dublin, &c. &c.

—— Darke, M.D. Stroud, Gloucestershire.

James Darke, Esq. Surgeon, Berkeley.

C. G. B. Daubeny, M.D. Professor of Chemistry in the University of Oxford.

Birt Davies, M.D. Birmingham, Lecturer on Forensic Medicine, Physician to the Fever Hospital, and to the General Dispensary.

Francis Davies, Esq. Surgeon, Pershore.

Henry Davies, Esq. Surgeon, Tenbury.

David Davies, M.D. Bristol; Senior Surgeon to St. Peter's Hospital.

A. W. Davies, M.D. Presteign.

Thos. Davis, Esq. Surgeon, Upton-upon-Severn.

Edward Davis, Esq. Surgeon, Ditton Priors, near Bridgnorth.

Wm. Davis, Esq. Surgeon, Bicester.

James Dawson, Esq. Surgeon to the Liverpool Infirmary.

Edward E. Day, Esq. Surgeon to St. Peter's Hospital, Bristol.

Paris Dick, M.D. Clifton, Bristol.

Wm. Dix, Esq. Surgeon, Long Buckley, Northamptonshire.

A. T. S. Dodd, Esq. Surgeon to the Infirmary, Chichester.

Adam Dods, M.D. Worcester.

Thos. Dowling, Esq. Surgeon, Chew Magna, Somerset.

G. W. Dyke, M.D. Devizes.

J. W. Eastment, Esq. Surgeon, Wincanton, Somerset.

John Eccles, M.D. Physician to the Birmingham General Hospital.

William Edmunds, M.D. Aylesbury.

George Edwardes, Esq. Surgeon to the Wolverhampton General Dispensary.

A. F. Edwards, Esq. Senior Surgeon to the Wivelscombe Infirmary, Somerset.

Edw. Jones Edwards, Esq. House Surgeon to the Flintshire Dispensary.

Clement Edkins, Esq. Surgeon, Talacre, Flintshire.
James Elliott, Esq. Surgeon, Lees, near Oldham.
E. Elkington, Esq. Surgeon, Birmingham.
George William England, Esq. Surgeon, Wellesbourne.
John Bishop Estlin, Esq. Surgeon, Bristol.
Lewis Evans, M.D. Physician to the Norwich Infirmary.
Thomas Evans, jun, M.D. Physician to the Gloucester Infirmary.
G. F. Evans, M.B. Birmingham.
—— Eve, M.D. Senior Physician to the Taunton and Somerset Hospital.

Thomas Fawdington, Esq. Surgeon in Ordinary to the Manchester Lying-in Hospital, and Lecturer on Anatomy, Pathology, and Surgery.
John James Feild, M.D. Worcester.
Thomas Fereday, Esq. Surgeon, Dudley.
George Fewster, Esq. Surgeon, Thornbury, Gloucestershire.
Alex. F. Fisher, Esq. Surgeon, Leamington.
George Fletcher, Esq. Surgeon, Croydon.
James Flesher, Esq. House Surgeon to the Aylesbury Infirmary.
Richard Flint, Esq. Senior Surgeon to the Stockport Infirmary.
Farnham Flower, Esq. Surgeon, Chilcompton, Somersetshire.
W. H. Foote, M.D. Aberystwith.
John Forbes, M.D. F.R.S. Physician to the Infirmary, Chichester.
Thomas Fowke, Esq. Consulting Surgeon to the Dispensary, Wolverhampton.
Thomas Fowke, jun. Esq. Surgeon to the Dispensary, Wolverhampton.
Charles Fowler, Esq. Surgeon to the Cheltenham Dispensary and Casualty Hospital.
Henry Hawes Fox, M.D. Bristol; late Physician to the Bristol Infirmary.
Charles Joseph Fox, M.D. Brislington House, near Bristol.
Francis Ker Fox, M.D. Brislington House, near Bristol.
John Fox, Esq. Surgeon, Cerne Abbas, Dorsetshire.
Francis Franco, Esq. Surgeon, Crickhowel.
George D. Fripp, Esq. Surgeon to the New General Hospital, and Lecturer on Materia Medica, Bristol.
Jos. Froisell, Esq. Surgeon, Knighton.
James Fryer, Esq. Bewdley.

—— Gapper, M.D. Bridgewater, Somersetshire.
Wm. Bennett Garlike, M.D. Great Malvern.
John Garstang, Esq. Surgeon, Clitheroe.
Richard Francis George, Esq. Surgeon to the Bath Hospital.
William Gill, Esq. Surgeon, Wolverhampton.
William Gill, Esq. Surgeon to the Ophthalmic Infirmary, Liverpool.
Daniel Gingell, M.D. Thornbury, Gloucestershire.
George Goldie, M.D. Shrewsbury; late Physician to the York Hospital.
William Goodlad, Esq. Surgeon, Bury, Lancashire.
R. T. Gore, Esq. Surgeon and Lecturer on Anatomy, Bath.
John C. Gordon, Esq. Surgeon, Manchester.
—— Grainger, Esq. Surgeon, Birmingham.
Thomas Green, Esq. Surgeon, Bristol.
John Greening, Esq. Surgeon to the Worcester Dispensary.
John D. Greenwood, Esq. Surgeon, Mitcham, Surrey.
George Greaves, Esq. Surgeon, Manchester.
A. Greville, Esq. Surgeon, Yatton, Somersetshire.
T. Taylor Griffith, Esq. Surgeon to the Wrexham Dispensary.
John Griffiths, Esq. Surgeon to the Infirmary, Hereford.
Thomas Griffiths, M.D. Bristol.
William Griffiths, Esq. Surgeon, Shrewsbury.
John W. G. Gutch, Esq. Surgeon, Swansea.

John Hamett, M.D. Birmingham.
Daniel Hammer, Esq. Surgeon, Chester.
Alexander Hannay, M.D. Physician to the Northern Hospital, Liverpool.
Michael Hansby, Esq. Surgeon, Abergavenny.
Edward B. Harman, M.D. Bath.
Alfred Hardwick, M.D. 17, Percy-street, London.
Henry Hargreaves, Esq. Surgeon, Manchester.
George Harrison, Esq. Surgeon to the Infirmary, Chester.
W. A. Harrison, Esq. Surgeon, Uxbridge.
Charles Hastings, M.D. F.G.S. Physician to the Worcester Infirmary.
George Edmund Hay, Esq. Surgeon, Bath.
John Haynes, Esq. Surgeon, Evesham.
Wm. Hayward, Esq. Surgeon, Aylesbury.
Aston Heath, Esq. Surgeon, Manchester.
—— Headley, M.D. Senior Physician to the Devizes Dispensary.

Christopher H. Hebb, Esq. Surgeon, Worcester.
Wm. Charles Henry, M.D. Physician to the Royal Infirmary, Manchester.
James Torry Hester, Esq. Surgeon, Abingdon.
William Hetling, Esq. Clifton, Bristol; Surgeon to the Bristol Infirmary, and Lecturer on Surgery.
George Hillhouse Hetling, Esq. Surgeon, Bristol.
Willam Hey, Esq. Surgeon, Leeds.
Richard Hill, Esq. Surgeon, Worcester.
Josiah Hill, Esq. Surgeon, Bristol.
Thomas Hiron, Esq. Surgeon, Warwick.
John Hiron, jun. Esq. Surgeon, Campden.
George Hitchings, Esq. Surgeon, Oxford.
John Hitchman, Esq. Surgeon to the Leamington Charitable Bathing Institution.
Henry Hodges, Esq. Surgeon, Ludlow.
Joseph Hodgson, Esq. Surgeon to the General Hospital, Birmingham.
James Holbrook, M.D. Crickhowel.
Edward Holme, M.D. Manchester.
Charles Hooper, Esq. Surgeon, Kempsey, Worcestershire.
William Hopkinson, M.D. Stamford.
George Horton, Esq. Surgeon, Bromsgrove.
John Horton, Esq. Surgeon, Bromsgrove.
Richard Horton, Esq. Surgeon, Sutton.
Edward Werge Howey, Surgeon to the Bromyard Dispensary, late Surgeon-major to the 3rd Division of Polish Infantry.
James Hughes, Esq. Surgeon to the Denbighshire Militia.
John Hughes, Esq. Surgeon, Abergele, Denbigh.
Arthur Hudson, M.B. Trin. Coll. Dublin, Westbromwich.
William Hutchins, Esq. Surgeon, Keynsham, Somersetshire.
James Hulstone, Esq. Surgeon, Worcester.
Richard Hughes, Esq. Surgeon to the Stafford County General Infirmary.
Richard Thomas Hunt, Esq. Assistant Surgeon to the Manchester Eye Institution, and Lecturer on Diseases of the Eye.
James Hurd, Esq. Surgeon, Yatton, Somersetshire.

J. Ingleby, Esq. Surgeon, Birmingham, Lecturer on Midwifery, &c.
J. W. Izod, Esq. Surgeon, Evesham.

Thomas Jacomb, Esq. Surgeon, Bath.

James Jaggard, Esq. Surgeon, Warwick.
J. H. James, Esq. Surgeon to the Exeter Hospital.
Thomas James, Esq. Surgeon, Wrington, Somersetshire.
Thomas Jeffreys, M.D. Liverpool.
Henry Jephson, M.D. Leamington.
Edward Johnstone, M.D. Birmingham, (Vice-President.)
John Johnstone, M.D. F.R.S. Birmingham, (Vice-President.)
James Johnstone, M.D. Physician to the General Hospital, and Lecturer on Materia Medica and Therapeutics, Birmingham.
John Jones, Esq. Surgeon to the Dispensary, Kidderminster.
Thomas Jones, Esq. Surgeon; Licentiate of the Apothecaries' Company, Ruthvin.
George Jones, Esq. Surgeon, St. Leonard's.
Richard Phillips Jones, M.D. Physician to the Infirmary, Chester.
R. Jones, Esq. Surgeon to the Leamington Hospital and Charitable Bathing Institution.
Robert Jones, Esq. Surgeon, Strefford, Salop.
W. W. Jones, Esq. Surgeon, Cleobury Mortimer.
J. Cove Jones, M.D. Leamington.
Geo. Woven Jones, Esq. Surgeon, Henley-in-Arden.
Walter Jones, Esq. Surgeon, Worcester.
John Julius Jones, Esq. Surgeon, Hereford.
J. P. Johnson, M.D. Physician to the Salop Infirmary.
Joseph Jordan, Esq. Surgeon, Manchester.
W. G. Jotham, Esq. Surgeon to the Dispensary, Kidderminster.
A. Jukes, Esq. Surgeon to the Birmingham General Hospital.

Wm. Kaye, M.D. Clifton.
Joseph J. Kelson, Esq. Surgeon, Bristol.
I. A. M. E. S. Kennedy, M.D. Ashby-de-la-Zouch.
James Kendrick, M.D. Warrington.
George Kenrick, Esq. Surgeon, Melksham.
—— Kent, M.D. Walsall.
Wm. Kerr, M.D. Physician to the Northampton Infirmary.
J. Kidd, M.D. F.R.S. Regius Professor of Physic in the University of Oxford.
John Kilvert, Esq Surgeon, Bath.
John King, Esq. Surgeon, Clifton, Bristol.
John Kimbell, Esq. Surgeon, Knowle.
George James Knapp, Esq. Surgeon, Bath.

J. Arnold Knight, M.D. Physician to the Infirmary, Sheffield.
George F. Knipe, Esq. Surgeon, Stratford-on-Avon.
George Beauchamp Knowles, Esq. M.R.C.S.L. F.L.S. and Lecturer on Botany in the Birmingham School of Medicine.
James Andrew Kruger, Esq. Surgeon, Bognor.

Joseph G. Lansdowne, Esq. Surgeon to the New General Hospital, Bristol.
Robert Lax, Esq. Surgeon, Bristol.
John Latham, Esq. Surgeon, Wavertree, near Liverpool.
Wm. Lang, Esq. House Surgeon to the New General Hospital, Bristol.
Arthur Sealy Lawrence, Esq. Surgeon, Potishead, Somersetshire.
Walter Leach, Esq. Surgeon, Chilcompton, Somersetshire.
J. Ledsom, Esq. Surgeon, Birmingham.
Leonard Ledbrook, Esq. Surgeon, Worcester.
Paul Leman, Esq. Surgeon, Sodbury, Gloucestershire.
Frederick Leman, Esq. House Surgeon to the Infirmary, Bristol.
Isaac Leonard, Esq. Surgeon, Bristol.
James Lewis, Esq. Surgeon, Hanley, near Upton-upon-Severn.
George Lewis, Esq. Surgeon to the Wrexham Self-supporting Dispensary.
Thomas Lingen, Esq. Surgeon, Stourport.
Charles Loudon, M.D. Leamington; Physician to the Leamington Charitable Bathing Institution.
Septimus S. Lowe, Esq. Surgeon, Stratford-on-Avon.
Thomas Lloyd, M.D. Physician to the Dispensary, Ludlow.
William Lloyd, M.D. Physician to the General Dispensary, Birmingham.
George Lloyd, M.D. Shiffnal.
Peter Francis Luard, M.D. Physician to the Leamington Hospital. Licentiate of the College of Physicians, London.
Thomas Lukis, Esq. Surgeon, Kidderminster.
Bew Lupton, Esq. Surgeon, Cheadle, near Manchester.
Harry Lupton, Esq. Surgeon, Thame, Oxon.
J. Bleeck Lye, M.D. Physician to the Hereford Infirmary.
G. H. Lyford, Esq. Surgeon to the Winchester Hospital.

James Mc Cabe, M.D. Physician to the Dispenary and Casualty Hospital, Cheltenham.

G. A. Macauley, Esq. Surgeon, Knighton, Radnorshire.
Thomas Macaulay, Esq. Surgeon, Leicester.
Samuel Malins, M.D. Physician Accoucheur, and Lecturer on Midwifery, Liverpool.
Joseph Mc Carogher, M.D. Physician to the Infirmary, Chichester.
Robert Poyntz Mc Donald, Esq. Surgeon, Yatton, Somerset.
David Macrorie, M.D. Physician to the Workhouse and Fever Hospital, Liverpool.
Jonas Malden, M.D. Senior Physician to the Worcester Infirmary.
Robert Mann, Esq. Surgeon, Manchester.
Peter Marriott, Esq. Surgeon, Bath.
Philip Marshall, Esq. Surgeon, Shepton Mallet, Somersetshire.
John Marshall, Esq. Surgeon, Wallingford.
Peter Martin, Esq. Surgeon, Reigate, Surrey.
William Martin, Esq, Surgeon, Clifton, Bristol.
Thomas Martin, Esq. Surgeon, Reigate.
James Marsh, Esq. House Surgeon to the Northampton Infirmary.
William Bakewell Matthews, Esq. Surgeon, Atherstone.
Charles Maul, Esq. Surgeon, Southampton.
William Maurice Esq. Surgeon, Bristol.
George May, Esq. Surgeon, Reading.
Charles Maybury, Esq. Surgeon, Cheltenham.
Edward T. Meredith, Esq. Surgeon, Presteign.
Richard Middlemore, Esq. Assistant Surgeon to the Birmingham Eye Infirmary.
Amos Middleton, M.D. Leamington.
William Middleton, Esq. Senior Surgeon to the Leamington Hospital.
Samuel Miller, M.D. Physician to the Chelmsford Dispensary.
—— Miller, Esq. Surgeon Castle Carey, Somerset.
John Mitchell, Jun. Esq. Surgeon, Kington, Herefordshire.
William F. Morgan Esq. Surgeon, Bristol.
George A. Morgan, Esq. Surgeon, Harbury, Warwickshire.
William Isaac Morgan, M.D.A.M. Fellow of the King and Queen's College of Physicians, Ireland, Bath.
William Mortimer, Esq. Surgeon, Clifton, Bristol.
Henry Moreton, Esq. Surgeon, Sodbury, Gloucestershire.
Edward Morris, Esq. Surgeon to the Dispensary, Worcester.
Joseph W. Moss, M.B. Oxon, F.R.S.L. Dudley.
G. Robert Moger, Esq. Surgeon, Bath.
Charles Mules, Esq. Surgeon, Ilminster, Somerset.
S. H. Murley, Esq. Surgeon, Cheltenham.

—— Nankivel, Esq. Surgeon to the Coventry Self-supporting Dispensary.
James Nash, M.D. Physician to the Worcester Infirmary.
Hugh Neill, Esq. Surgeon to the Ophthalmic Infirmary, Liverpool.
—— Newman, Esq. Surgeon, Corsham, Wilts.
Richard M. Noneley Esq. Surgeon, Market Drayton, Shropshire.
George Norman Esq. Surgeon to the Bath United Hospital.
John North, Esq. Surgeon Apothecary to the Brecon Infirmary.

John Ormond, Esq. Surgeon, Bath.
Henry Ormond, Esq. Surgeon, Wantage.
Henry Ollier, Esq. Surgeon to the New Bailey Prison, and to the Police, Manchester.
Thos. Paget, jun. Esq. Leicester.
Lewis Parker, Esq. Surgeon, Oxford.
John Parr, Esq. Surgeon, Liverpool.
William H. Parsley, Surgeon, Worle, Somersetshire.
George Parsons, Esq. Surgeon to the Town Infirmary, Birmingham.
—— Partington, Esq. Surgeon, Chorlten-upon-Medlock.
Samuel Partridge, Esq. Surgeon, Birmingham.
James Paxton, Esq. Surgeon, Oxford.
Henry Perry, Esq. Surgeon, Henbury, near Bristol.
George Peskett, Esq. Surgeon, Funtington, near Chichester.
Thomas Phinn, Esq. Surgeon, Bath.
Matthew Pierpoint, Esq. Surgeon to the Worcester Infirmary.
John Piper, Esq. Surgeon, Birmingham.
Charles Pope, Esq. Surgeon, Temple Cloud, Somersetshire.
Thomas Pope, Esq. Surgeon, Cleobury Mortimer.
William Ogilvie Porter, M.D. Bristol.
—— Porter, Esq. Surgeon, Birmingham.
Robert Power, Esq. Surgeon, Atherstone.
John Power, Esq. Surgeon, Leamington.
Richard Powell, Esq. Surgeon, Bristol.
T. B. Proctor, Esq. Surgeon, Leintwardine.
J. B. Procter, Esq. Surgeon, Pembridge, Herefordshire.
William Prosser, Esq. Surgeon, Monmouth.
John Freer Proud, Esq. Consulting Surgeon to the General Dispensary, Wolverhampton.
James Prowse, Esq. Surgeon, Bristol.

James Cowles Prichard, M.D. F.R.S. Senior Physician to the Bristol Infirmary.
John Pritchard, Esq. Surgeon, Leamington.
James Pritchard, Esq. Surgeon, Stratford-on-Avon.
Thomas Pritchard, Esq. Surgeon, Hereford.

Thomas Radford, Esq. Surgeon Extraordinary to the Manchester Lying-in-Charity, and Lecturer on Midwifery and the Diseases of Children.
P. Ramsey, M.D. F.R.C. of Physicians, Edinburgh, Liverpool.
John A. Ransome, Esq. Senior Surgeon to the Manchester Royal Infirmary, and Lecturer on the Principles and Practice of Surgery.
Joseph Atkinson Ransome, Esq. Surgeon to the Ancoats and Ardwick Dispensary, Manchester.
John Rayment, Esq. Worcester.
—— Reynolds, M.D. Liverpool.
David Rice, Esq. Surgeon, Stratford-on-Avon.
Wm. Richards, Esq. Surgeon, Tewkesbury.
Ralph Richardson, M.D. Fellow of the College of Physicians, Edinburgh, Chester.
W. H. Ricketts, Esq. Surgeon, Droitwich.
Martin Ricketts, Esq. Surgeon, Droitwich.
Henry Riley, M.D. Bristol; Physician to the Bristol Infirmary, and Lecturer on Anatomy.
Archibald Robertson, M.D. Physician to the Northampton Infirmary.
John Robertson, Esq. Surgeon in Ordinary to the Manchester Lying-in Charity, and Lecturer on Midwifery and the Diseases of Women and Children.
Thomas Roblyn, Esq. Senior Surgeon to the Clifton Dispensary, Hotwells, Bristol.
Robert Roberts, Esq. Surgeon, Denbigh.
George Rootes, Esq. Surgeon, Ross.
—— Rose, Esq. Surgeon, High Wycombe.
James Wyke Rowland, Esq. Surgeon to the Iron-Bridge Dispensary.
—— Rowland, Esq. Surgeon to the Swansea Infirmary.
Thomas Rowley, M.D. Lichfield.
Christopher Royston, Esq. Surgeon, Redditch, Worcestershire.
J. Rumsey, M.D. Amersham, Bucks.

Nathaniel Rumsey, Esq. Surgeon, Beaconsfield.
Henry Wyldbone Rumsey, Esq. Surgeon, Chesham, Bucks.
John Rutter, M.D. Liverpool.
Frederick Ryland, Esq. Surgeon, Birmingham.

William Sainsbury, M.D. Corsham, Wiltshire.
Edward Salmon, Esq. Surgeon, Thornbury, Gloucestershire.
Thomas Salter, Esq. F.L.S. Surgeon, Pool.
William Sanders, Esq. Surgeon to the Birmingham and Deritend General Self-supporting Dispensary.
Roger Scott, M.D. Physician to the South Dispensary, Liverpool.
Charles Seager, Esq. Surgeon, Cheltenham.
Wm. Frowd Seagram, Esq. Surgeon, Warminster.
Frederick Seagram, Esq. Surgeon, Warminster.
Hungerford Sealy, M.D. Bath.
Congreve Selwyn, Esq. Surgeon to the Ledbury Dispensary.
Edmund Seward, Esq. Surgeon to the Bromyard Dispensary.
—— Shapter, M.D. Physician to the Exeter Dispensary.
George Shaw, M.D. F.L.S. Fellow of the College of Physicians, Leicester.
John B. Shelton, Esq. Surgeon, Bromyard.
James P. Sheppard, Esq. Senior Surgeon to the Worcester Infirmary.
Richard Short, Esq. Surgeon, Solihull, Warwickshire.
John Sims, M.D. Cavendish-square, London; Physician to the Mary-le-bone Infirmary.
Charles Phillott Slater, Esq. Surgeon, Bath.
Charles Smerdon, Esq. Surgeon, Clifton, Bristol.
Richard Smith, Esq. Bristol; Senior Surgeon to the Bristol Infirmary.
Nathaniel Smith, Esq. Bristol; Surgeon to the Bristol Infirmary.
Thomas Smith, Esq. Surgeon, Evesham.
Henry L. Smith, Esq. Surgeon, Southam.
Thomas Smith, Esq. Surgeon, Stroud, Gloucestershire.
John Smith Soden, Esq. Surgeon to the Bath United Hospital, to the Bath Eye Infirmary, and to the Bath Penitentiary.
James C. Somerville, M.D. Inspector of Anatomy, Saville-row, London.
J. C. Spender, Esq. Bath; Lecturer on Anatomy.
E. A. Spilsbury, Esq. Surgeon, Walsall.
George Spry, Esq. Surgeon, Bath.

William Squires, M.D. Liverpool.
Hugh Standert, Esq. Taunton; late Surgeon to the Taunton and Somerset Hospital.
William Steel, Esq. Surgeon, Abergavenny.
Thomas Stephenson, Esq. Surgeon, Worcester.
Robert Stevens, M.D. M.R.C.S. Ely.
John B. Steward, M.D. Fellow of the College of Physicians, Lunatic Asylum, Droitwich.
Robert I. N. Streeten, M.D. Physician to the Worcester Dispensary.
Thomas Stockwell, Esq. Surgeon, Bath.
Charles Starkey, Esq. Surgeon, Westbromwich, Staffordshire.
Richard Strong, Esq. Surgeon, North Petherton, Somersetshire.
—— Sully, M.D. Oakhills, near Taunton, Somersetshire.
B. C. Sully, M.D. Cheltenham.
T. L. Surrage, Esq. Surgeon; Lecturer on Midwifery in the Bristol Medical School.
John C. Swayne, Esq. Surgeon, Bristol.
G. Swinson, Esq. Surgeon, Birmingham.
J. A. Symonds, M.D. Physician to the General Hospital, Bristol, and Lecturer on Medical Jurisprudence in the Bristol Medical School.

G. Taylor, Esq. Surgeon, Birmingham.
William Terry, Esq. Surgeon to the Northampton Infirmary.
William Thackeray, M.D. Chester.
Frederick Thackeray, M.D. Cambridge.
Joseph Thomas, Esq. Worcester; Deputy Inspector of Hospitals.
Charles Willard Thomas, M.D. Physician to the Cheltenham Dispensary and Casualty Hospital.
Charles Thompson, Esq. Surgeon, Ross.
Edward Thompson, Esq. Surgeon to the Whitehaven Infirmary.
Thomas Thomson, M.D. Physician to the Stratford Dispensary.
Robert Thorpe, Esq. Surgeon to the Royal Infirmary. Manchester.
Sir C. Throckmorton, Bart. M.D. Coughton, Warwickshire.
Thomas Thursfield, Esq. Surgeon to the Dispensary, Kidderminster.
William Thursfield, Esq. Surgeon, Bridgnorth.
Richard Thursfield, Esq. Surgeon to the United Dispensary, Broseley.
G. F. Todderick, M.D. Bath; Hon. Fellow of King and Queen's College of Physicians in Ireland, Barnstable.

R. B. Todd, M.D. Lecturer on Anatomy at the Westminster School of Medicine.
T. J. Todd, M.D. Physician to the Dispensary, Brighton.
Jonathan Toogood, Esq. Senior Surgeon to the Bridgewater Infirmary.
David Torrance, Esq. Surgeon, Rugby.
William Trevor, Esq. Surgeon, Bridgewater.
William Tuckwell, Esq. Surgeon to the Oxford Infirmary.
William Tudor, Esq. Senior Surgeon to the Bath Hospital.
N. Tudor, Esq. Surgeon, Leintwardine.
William Key Tunnicliffe, Esq. Surgeon, Tewkesbury.
Thomas Turner, Esq. Surgeon to the Manchester Royal Infirmary, and Lecturer on Anatomy and Surgery.

Charles Underwood, M.D. Ross.

Charles Wake, M.D. Warwick.
George Waldron, Esq. Surgeon, Bath.
J. K. Walker, M.D. Physician to the Huddersfield Infirmary.
Edward Wallace, Esq. Surgeon, Carshalton, Surrey.
George Wallis, M.D. Bristol; Physician to the Bristol Infirmary, and Lecturer on Anatomy.
J. H. Walsh, Esq. Surgeon, Worcester.
Thomas Ogier Ward, M.D. Birmingham.
Henry Ward, Esq. Surgeon, Ross.
Kenrick Watson, Esq. Surgeon, Stourport.
William D. Watson, Esq. Surgeon, Warwick.
Thomas Sandon Watson, M.D. Physician to the Bath Hospital.
John Ware, Esq. Surgeon, Clifton, Bristol.
Charles Webb, Esq. Surgeon, Oxford.
—— Watkins, Esq. Surgeon, Yeovill.
John Webb, Esq. Surgeon, Alcester.
Edward Welchman, Esq. Surgeon, Kineton, Warwickshire.
George Wells, Esq. Surgeon, Halford Bridge.
—— Wells, Esq. Shepton Mallet, Somersetshire.
J. Wightman, Esq. Cawood, Selby, Yorkshire.
A. Wheeler, Esq. Surgeon, Worcester.
James Whicher, Esq. Surgeon, Petersfield.
Joseph Wickenden, Esq. Surgeon, Birmingham.
John C. Wickham, Esq. Surgeon, Didmarton, Gloucestershire.

W. I. Wickham, Esq. Surgeon to the Winchester Hospital.
—— Wilde, Esq. Surgeon, Stourport.
James Williams, Esq. Martin, near Worcester.
John Williams, Esq. Surgeon, Bewdley.
Owen W. Williams, Esq. Surgeon, Leamington.
William Williams, Esq. Surgeon, South Brent, Somersetshire.
David Williams, M.D. Physician to the North Dispensary, Liverpool.
Peter Williams, Esq. Holywell, Surgeon to the Flintshire General Dispensary.
Richard Lloyd Williams, Esq. Surgeon to the Denbighshire General Dispensary and Asylum for the Recovery of Health.
John Calthorp Williams, M.D. Lecturer on Medicine in the Medical School, Nottingham.
Richard Williams, Esq. Surgeon, Aberystwith.
Edm. W. Wilmore, Esq. Surgeon, Van Diemen's Land.
John Grant Wilson, Esq. Surgeon to the General Hospital, Bristol.
James W. Wilson, Esq. Surgeon to the Manchester Royal Infirmary, &c.
George Wilson, Esq. Surgeon, Monmouth.
J. W. Wilton, Esq. Senior Surgeon to the Gloucester Infirmary.
John Windsor, Esq. F.L.S. Surgeon to the Manchester Eye Institution, and Lecturer on Medical Jurisprudence.
Charles Wingfield, Esq. Surgeon to the Oxford Infirmary.
William Winter, Esq. Surgeon, Bristol.
George Witt, M.D. Physician to the General Infirmary, Bedford.
George Leighton Wood, Esq. Surgeon, Bath.
Miles Astman Wood, Esq. Surgeon to the Dispensary Ledbury.
Abraham Wood, Esq. Surgeon, Rochdale.
Richard Wood, Esq. Surgeon to the Birmingham General Hospital.
J. Woodforde, M.D. Castle Cary.
James Woodman, M.D. Bath.
William Woodward, Esq. Surgeon, Pershore.
John Woodward, Esq. Surgeon, Worcester.
James Mills Woolfenden, Esq. Surgeon, Warwick.
Samuel Wolstenholme, Esq. Surgeon to the Holywell Dispensary, Fintshire.
George Wolstenholme, Esq. Surgeon, Bolton, Lancashire.
Thomas Workman, Esq. Surgeon, Basingstoke.
Edward W. Wright, M.D. Shipston-on-Stour.
Thomas Wynter, Esq. Surgeon, Westbromwich.
J. C. Yeatman, Esq. Surgeon, Froome, Somersetshire.

# APPENDIX.

## ADDITIONS TO THE LIST OF MEMBERS, AND CORRECTIONS.

THE CORRECTIONS ARE DISTINGUISHED BY AN ASTERISK.

A

George Allen, Esq. Surgeon, St. George's, Somersetshire.

B

David Baird, M.D. Physician to the Lunatic Asylum, Liverpool.

*Archibald Billing, M.D. Fellow of the Royal College of Physicians, and Senior Physician of the London Hospital, 5, Bedford Place, London.

John Barrett, Esq. Surgeon, Sherborne, Dorsetshire.

—— Barter, Esq. Surgeon, Poole, Dorsetshire.

James Black, M.D. Bolton-le-Moors.

John Boutflower, Esq. Surgeon, Manchester.

Robert Brown, Esq. Surgeon, Preston.

Samuel Bryant, Esq. Surgeon, Bristol.

C

Abraham Chubb, Esq. Surgeon, Halifax.

*John Clendinning, M.D. Physician to the Mary-le-bone Infirmary, 16, Wimpole Street, London.

Charles Clough, Esq. Surgeon to the Manchester Lying-in Hospital.

D

*W. W. Darke, M.D. Stroud, Gloucestershire.

*David Davies, M.D. Bristol; Senior Surgeon to St. Peter's Hospital, and Lecturer on Surgery and Midwifery.

Joseph Denham, Esq. Bolton-le-Moors.

W. B. Dickinson, Esq. Surgeon, Macclesfield.

*Paris Thomas Dick, M.D. Clifton, Bristol, Lecturer on Materia Medica.

Charles Dudley, M.B. Stourbridge.

Enoch Dunkerley, Esq. Surgeon, Oldham, near Manchester.

E

Peter Hulme Edge, Esq. Surgeon, Salford.
*John Eve, M.D. Senior Physician to the Taunton and Somerset Hospital.

F

Robert Freeman, Esq. Surgeon, Stoney Stratford, Bucks.
George Forrest, Esq. Surgeon, Kendall.
Thomas Fawcitt, Esq. Surgeon, Oldham, near Manchester.
John Hele Fuge, Esq. Surgeon, Plymouth.
*John Fowke, Esq. Surgeon to the Dispensary, Wolverhampton.

G

A. W. Gale, Esq. Surgeon, Shepton Mallet, Somersetshire.
*James Gapper, M.D. Bridgewater, Somersetshire.
*Daniel Gingell, M.D. Bristol.
*Thomas Green, Esq. Surgeon, Bristol, Lecturer on Anatomy.

H

Thomas Harland, M.D. Senior Physician to the Salford Dispensary.
John Gregson Harrison, Esq. Surgeon, Manchester.
Joseph Lomas Heap, Esq. Bolton-le-Moors.
*George Hillhouse Hetling, Esq. Surgeon, Demonstrator of Anatomy in the Bristol Medical School.

K

John Kenworthy, Esq. Surgeon, Strangways, Manchester.

L

*James Lewis, Esq. Surgeon, Hanley Castle, near Malvern Wells.
Edmund Lyon, M.D. Physician to the Manchester Royal Dispensary.

M

—— Mackenzie, Esq. Surgeon, Leyton-Stone, Essex.
George Mallett, Esq. Surgeon, Bolton-le-Moors.
John Marshall, M.D. Manchester.
John Moore, Esq. Surgeon, Bolton-le-Moors.
Richard Moulson, M.D. Halifax.
Samuel Myles, Esq. Rancorn, Cheshire.

N

Edward Newbold, Esq. Surgeon, Manchester.
John Newbold, M.D. Liverpool.
George Newman, Esq. Surgeon, Glastonbury, Somerset.
Daniel Noble, Esq. Surgeon, Manchester.
William Norris, M.D. Stourbridge.

P

Charles Phillips, M.D. Physician to the Manchester Royal Infimary, Dispensary, &c.

R

*Thomas Roblyn, Esq. Senior Surgeon to the Clifton Dispensary, Clifton, Bristol.

*John Robertson, Esq. Surgeon in Ordinary to the Manchester Lying-in Charity, and Lecturer on Midwifery and the Diseases of Women and Children.

Marshall Robinson, Esq. Bolton-le-Moors.

S

John Sharp, Esq. Surgeon, Warrington.

*William W. Squires, M.D. Senior Physician to the Northern Hospital, Liverpool.

T. W. Starr, M.D. Leamington.

James Startin, Esq. M.R.C.S. Warwick.

Edward Stephens, Esq. Surgeon, Lecturer on Pathology, Manchester.

Edward Stephens, Esq. C.D. Surgeon to the Manchester Lying-in Hospital, and Demonstrator of Anatomy at the Manchester Royal School of Medicine and Surgery.

*Henry Sully, M.D. Oakhills, near Taunton, Somersetshire.

T. L. Surrage, Esq. Surgeon, Clifton, Bristol.

*John C. Swayne, Esq. Lecturer on Midwifery at the Bristol Medical School.

T

Reynold C. Thomas, M.D. Liverpool, late of Barbadoes.

John Thomson, Esq. Surgeon, Tamworth.

William Tomkins, Esq. Surgeon, Yeovil, Somerset.

W

Edward Westall, Esq. Surgeon, Croydon.

Hugh Williams, Esq. Surgeon, Thrapston, Northamptonshire.

Peter Wood, M.D. Manchester.

---

As it is scarcely possible to avoid errors in printing so numerous a list of Members, the Secretaries are anxious, wherever they are committed, that they may be amended; and will, therefore, feel obliged, if those Members, whose names are not rightly inserted, or whose Christian names are omitted, will send a notification to them, free of postage.

# AN ADDRESS

DELIVERED AT THE

## THIRD ANNIVERSARY MEETING

OF THE

## PROVINCIAL

## MEDICAL AND SURGICAL ASSOCIATION,

JULY 23rd, 1835.

BY J. C. PRICHARD, M.D. F.R.S.

*Corresponding Member of the Institute of France, Member of the Royal Academy of Medicine of Paris, and Senior Physician to the Bristol Infirmary.*

---

In no other way can I commence the memoir which I am about to lay before the present meeting of the Provincial Medical Association, than by expressing a wish that the duty of drawing up this address had fallen into hands more fitted to discharge it in the best manner. The distinguished physician who does the society the honour of presiding this day over its meeting, will bear me witness, that in this respect my intention has not been in fault. I feel, indeed, the difficulty of following predecessors, whose habits and talents are such as to render them particularly well qualified for the undertaking in which I find myself engaged. Another disadvantage, under which I labour, is not a personal one:

it would be felt by any other individual under similar circumstances. The task of drawing up annual reports for literary and scientific societies, is found to become on every occasion more difficult than on the preceding one. To represent the advancement made in any department of knowledge during one year, is an attempt which can in no other way be usefully undertaken than in connexion with a survey of the acquirements of former periods; and the fulfilment of this condition at short intervals of time, must evidently bring with it the necessity of frequent recapitulations. That it is, in the present instance, in any manner possible, or a thing to be attempted with any prospect of success, is, in itself, a remarkable and a characteristic circumstance in the actual state of our art and science. For at what preceding time could the idea have been entertained of tracing, from year to year, the progressive advancement of medical knowledge? If we go back only half a century, or a little further, in the history of medicine, we shall find one decade of years, as it succeeded another, marked, occasionally, by some revolution in the state of opinion, one conjectural system of pathology superseding its forerunner, and after holding possession for a time of the schools of medicine, and exciting in its rise a surprising degree of proselyting zeal, and in its decline maintained with obstinate adherence, yielding at length to a new system, which was destined, in its turn, to go through the same round. But when we attempt to estimate the solid acquirements of knowledge resulting from the efforts with which each theory has been set forth, and afterwards de-

fended, we shall find reason to doubt whether the exertions of its advocates have not been, in this point of view, altogether in vain. When the humoral pathology gained the ascendency, it was held to be a successful attempt to substitute rational principles for the fanciful speculations which had before prevailed. The more intelligible methods of explaining phenomena, with reference to agencies for the most part mechanical, and similar to those which are recognised in operation under a variety of circumstances, seemed to place pathology upon a more secure ground than the vague and indistinct theories which had been current in the preceding times. But the explanations which the humoral system afforded, were inadequate and conjectural; and the abandonment of this pathology made way for the prevalence of doctrines, the influence of which was still perceptible at the commencement of the present century. Some advantages ultimately resulted from this revolution of opinion, though it may be questioned whether the theories which originated in this country shortly before the period I have just mentioned, and which long continued not only to divide between them the physicians of Britain, but to produce even sharper contests in Italy and Germany, were more truly philosophical than the speculations of Paracelsus and Van Helmont. They called in not less the aid of mysterious agencies. After generalising hastily a number of observations, and inferring thence a general fact, or law, so termed, of the animal economy, they gave to this general principle a significant name, and converted it into an agent,

a designing and operative power. Such was the *Vis Medicatrix Naturæ* of Dr. Cullen, and his contemporaries. It had the same parentage with the *Spiritus Archœus* of earlier times, or, we should rather say, that the "*deus ex machinâ*" of Van Helmont had only changed its name. But it had been reserved for Stahl and Cullen to advance one step further than the hypothetical theorists who had gone before them. The *Spiritus Archœus* had been the guardian of health; but the *Vis Medicatrix* was capable of errors, and it governed occasionally so ill the affairs of the animal economy, that its mistakes came in to complete the explanations of morbid phenomena. An example of this kind is the celebrated theory of fever, so conspicuous among the doctrines of the Cullenian school, in which, after a part of the series of morbid actions had been explained by referring them to the sedative or depressing influence of an external cause, the *Vis Medicatrix* was made to complete the result by imposing a spasm on the extreme vessels, and setting up that condition of the system which is termed fever, or *pyrexia*. It was a speculative attempt to assume the existence of a plastic principle, organising and governing the structure and functions of the living body; but to proceed further, and to endow this assumed principle with that sort of limited intelligence which belongs to an individual agent, was to venture in too obvious a manner to personify a mere abstraction. Yet this absurdity prevented not the general acceptation, and the long prevalence of the theory, against which Dr. Brown exerted his ridicule, and in opposition to which he created a system

equally fantastical. For what can be more fanciful than the scale of degrees, in inverted ratio, of excitability and stimulus, in which every disease was to find its place—apoplexy, gout, and fever, being arranged like the marks of much rain, changeable, and fair weather, in a barometer; and what more chimerical than an entity of which greater and lesser quantities were supposed to give existence to such various morbid states?

When we compare these speculations, which may be said to have divided between them, as votaries, the last generation of physicians, we may well ask, if we can divest ourselves of partiality for the theories which almost belong to our own times, and in the belief of which some of us were educated; whether they are at all preferable to doctrines at least respectable by reason of antiquity, but long ago abandoned: and it is no matter of surprise to find one of the soundest philosophers of the present age declaring in plain terms that medicine, considered as a science, has scarcely made any progress since the days of Hippocrates.*

If we inquire by what steps a transition has been made into the way of thinking and reasoning on medical subjects, which characterises the present time, we shall find that one main part of this revolution has consisted in a partial abandonment of theoretical systems. It required a long training of the human mind, before it could be brought, in every department of science, to recognise the real boundaries of attainable knowledge. In no department are these boundaries more restricted than in

* See Dr. Thompson's History of the Royal Society.

medicine. Ultimate facts present themselves on every side: we neither know by what operation the most powerful morbific causes, such as miasmata, produce their effect upon the human body; nor how the most simple remedies act in restoring a healthy state. Every dose of jalap is given empirically, and is expected to purge merely on the ground of analogy, and because other doses of jalap have been already known to purge. How then, in relation to subjects of this nature, can a doctrine of causes and effects, or, in other words, a system of theoretical pathology be erected on a secure foundation?

We cannot, however, boast that physicians of our own generation have been wise enough to abandon all attempts to form systematic theories, though it is obvious that such systems have less influence, and are suffered less to interfere with observation, than heretofore. Since the gradual decline of the Cullenian and Brunonian doctrines, no other theory has attained an equal degree of ascendency, or has been, on the one hand, so warmly espoused, and, on the other, so zealously opposed. The inclination to speculate, in the mean time, has not ceased to produce its usual results. The prevailing tendency has been to adopt, under various modes, the theory of vascular determinations, or to account for a great variety of morbid phenomena, by attributing them to different degrees of fulness and distention in the blood-vessels, either of the whole system, or, more commonly, of particular organs. The foundation of this doctrine is found in one of the best reasoned and most plausible parts of the works of Cullen—I mean his theory of hemorrhagy. It derives sup-

port from the phenomena of inflammatory and hemorrhagic diseases, and the tendency to account for what is unknown, by assimilating it to what is supposed to be understood, is continually inducing writers on pathology to assume the existence of this physical state in a variety of diseases in which its presence cannot be established by certain proofs. It was not until this way of theorising on the causes of disease had been long prevalent, that ideas related to it were embodied in systems of medicine; but those methodical works having obtained celebrity in which the prevailing notions have been most clearly elucidated, their original development has been ascribed to writers who have only set forth, in a distinct and striking manner, opinions previously diffused.

In this country, the theory of vascular determinations was placed in a new point of view, and applied, on an extensive scale, to the explanation of morbid phenomena, by Dr. Parry, who introduced some new circumstances into the way of conceiving it. Temporary changes in the quantities of blood distributed to different organs, are commonly supposed to be principal causes of disorder in the functions, and ultimately in the structure of such organs: but a question arises—how such changes are brought about? What is the physical cause of an augmentation in the relative quantity of blood thrown, for example, at any particular time into the vessels of the head? It is not, as it was generally supposed to be, before the publication of Dr. Parry's physiological experiments, a result of increased action in particular vessels, but of a temporary change in the

calibre of those vessels, which, by virtue of a property somewhat obscure in its nature, termed by Dr. Parry, after Bichât, *tonicity*, are supposed to be capable of occasional augmentations of dimension, depending on particular states of the constitution, and giving rise to changes in the relative quantities of blood distributed to the vascular apparatus of different organs. Another peculiarity in the theory of Dr. Parry, is the mechanical way in which he contemplated the results of sanguineous determinations, or of increased vascular fulness in particular parts. He appears, from his expressions, to have considered the effects of these temporary changes of fulness as depending, almost entirely, on the momentum with which the fluids are propelled through the vessels. The failure of this theory, or the event that it has not produced a general conviction, has arisen from the deficiency of proof in particular applications of its principles.

A different modification of the vascular pathology, and one which is at present in greater fame, is the theory of M. Broussais, which the author has chosen to term the "Physiological Doctrine of Medicine." It would be improper to mention the name of M. Broussais, without acknowledging the benefits which he has conferred upon the profession, by drawing their attention, in a powerful manner, to a series of highly important facts in the history of diseases, and particularly in that of febrile affections. The true character, and relations, of that state of the system which he denominates "*Gastro-enterite*," had never been fully developed and understood, until M. Broussais investigated the proofs and the

results of its existence. True enteritis and peritoneal inflammation had been confounded; and manifestations of chronic disease, which are now recognised as secondary and dependant on that organic state of the intestinal canal described by M. Broussais, had been attributed to other conditions. Until this writer drew the attention of physicians to the frequent existence of irritation and of inflammatory disease in its structure, the intestinal tube had been too much looked upon, in this country, as a mere drain or outlet which might at all times be scoured with impunity, by the most drastic resinous and mercurial purgatives. Yet, with all the merit which undoubtedly belongs to this distinguished writer, the doctrine of M. Broussais must be allowed to be at variance with the true principles of science, and with the spirit of an age which exacts a strict adherence to the maxims of the inductive philosophy. For what else can be said of a series of dogmas, many of which contain not the enunciation of general facts, stated as the results of many particular researches or of concurring observations, but propositions delivered as axioms, and declaring not what actually exists, but what is possible and impossible? Can any other description be given of such a statement as the following? "*No extra-cerebral inflammation can produce mania, until the stomach and small intestines become affected.*" The positive terms admitting no exception, in which M. Broussais asserts that tubercles, cancerous tumours, and other organic diseases, are *always* the products of membranous inflammation, is certainly more unhesitating and dogmatical than any induction from

facts can warrant. Nor can it be allowed to be a thing already established by proof—nay, the assertion, as an universal one, is every day contradicted by the evidence of necroscopy—that *all* idiopathic fevers, so termed, are referrible, as M. Broussais declares them to be, to gastro-enteritis. Undoubtedly this morbid state coexists with, and, *perhaps*, it is the cause of fever, in a great proportion of instances; but the universal assertion of its presence, goes far beyond the truth. Again, how strange does the following proposition of M. Broussais appear to those who have reflected on the obscurity of the subject: "*The cause of moral perversion and of suicide,* in cases of mental derangement, *consists always in irritation of the trisplanchnic apparatus, and especially of that belonging to the stomach, acting on the brain.*"—Some of the strong positions of M. Broussais have been refuted by his countrymen, MM. Andral and Louis. We may further remark, that it seems to be a great defect in a theory which refers so exclusively the general derangements of the system to local disease in the abdomen, to have taken no notice of one of the most important morbid states to which the viscera of that cavity are subject: I allude to that of abdominal plethora, a diseased condition which has been chiefly elucidated by the pathological writers of Germany, and to which the attention of English physicians has been directed by Dr. Clark.

The cautious and mature judgment of the present day rejects, as I have said, all attempts to extend the inferences derived from facts, beyond the particular examples in which they are verified by ob-

servation, and will in no instance allow the degree of evidence arising from analogy, to amount to anything more than probability. It is obvious that the principles of reasoning which are now universally acknowledged must prevent the future success of all systemic theories of medicine, unless the medical sciences should become perfected in a degree of which we have at present no conception. What, then, we may be ready to inquire, are the principles which are destined to govern the art of medicine during this long interval? Are we abandoned to a total anarchy; and is it our fate, after having given up so many systems one after another, to fall at last into mere empiricism, and to try experiments by adventure? It is fortunate that we are not thus driven from one extreme to another. We find a middle ground, on which a more secure foundation may be laid. By applying the strict rules of induction to medical researches, the art and practice of reasoning on subjects of this nature have been brought into what may be termed the strictly rational method of inquiry. This consists in investigating, in every disease, and in every particular case, the actual pathological state on which the symptoms depend, or with which they coexist. It is not, like the theories of medicine, of which I have alluded to the most celebrated in our time, an attempt to deduce from assumed physiological principles, all the changes which may, possibly, or may not, occur; or to determine how, and by what laws of the animal economy, every link in the series of morbid phenomena has followed its antecedent. The strictly inductive method of reasoning

on medical subjects, precludes all such attempts; and confines the attention of the physician to the inquiry—what is the actual pathological state in the case which he is called upon to investigate; what are the relations of this state, and its probable consequents, and by what means may it be reversed, or, if that cannot be done, so changed and modified as to be rendered most compatible with the continued existence and personal comfort of the individual who is the subject of disease?

There are four divisions of this inquiry, or four methods by which the investigation may be pursued; and, on the same principle, the whole region of medical knowledge may be divided into as many departments, which I shall enumerate for the sake of rendering the arrangement of my further remarks more distinct and comprehensible. These divisions are, first, the *History of Diseases*, comprising all that is known of their causes or antecedents, and of their consequents; and of the relation of their phenomena to those of other diseases;—secondly, the *Technical Investigation* of physical signs, including every method of scientific research into the nature of appearances which present themselves in the disordered state of the body during life;—thirdly, *Necroscopy*, or an *examination, in the dead body*, of the results of diseased action in the disorganisation of structures;—fourthly, *Observations on the effects produced by particular agents* during disease; or on the influence of remedies; or, what the old writers term, the *doctrine of the Juvantia and Lædentia*.

I shall now proceed to make some observations

on the state of medical knowledge in these four departments, and of the recent additions which have been made to each, with the view of fulfilling, as far as circumstances will allow me to do it, the task which I have undertaken.

1.—*History of Diseases, or Nosography.*—The first as well as the last mentioned of these divisions of our knowledge has long been cultivated; the second and the third are comparatively of recent origin; their cultivation implies a greater advancement in art and science. The history of diseases, and the observation of facts, begin from the time of Hippocrates; and among the ancient physicians there were several who have ever been celebrated for the correct and graphical descriptions which they have left of many diseases, by them first discriminated, and still to be recognised by the same phenomena. The histories of diseases recorded by the Father of medicine himself, and by Cælius, and Aretæus of Cappadocia, have scarcely been excelled in the works of the most celebrated modern writers of the same class, among whom Sydenham, Hoffmann, and Cullen, are universally distinguished. During the last half-century, this, as well as other branches of medical literature, has been pursued in a manner which is characteristic of the advancement of knowledge. Particular classes of diseases have been selected by individuals as the objects of their peculiar study, on the principle of the division of labour, and the result has been a far greater accuracy of research than could otherwise have been expected. In some departments it may, indeed, be said, that a new art and science have been developed within a

separate and isolated sphere of observation. I need only refer to what has been done by such writers as Willan, Bateman, Alibert, and Rayer, in respect to diseases of the skin; by Bayle, Laennec, Forbes, Hastings, Louis, and Clark, in disorders of the chest; by Pinel, Esquirol, Georget, and Foville, in disorders affecting the exercise of the mental faculties; and by Abercrombie, Rostan, Ollivier, and Lallemand, in a more extended view of diseases of the brain.

2.—*Technical Investigation.*—A technical investigation of the phenomena of disease constitutes the second branch of medical research. This is the application of the resources of art to the discrimination of disorders, and to an inquiry into their more recondite nature and essential character. It includes all that chemical and mechanical sciences have contributed towards the elucidation of these subjects, by the analysis of the component parts of the living body, or of blood and secreted fluids; and by the exploration, as it is termed, of physical signs. These studies were, for obvious reasons, much later in arriving at any degree of perfection, and even in the era of their first rise into existence, than the history of diseases or nosography. Animal chemistry took the lead, and preceded, by many years, the later technical methods; but, among the physicians of the present day, there are several who may be distinguished for the remarkable success with which they have cultivated this department of medical science. It was scarcely deserving of that name before the time of Drs. Henry, Bostock, and Prout.

Exploration of the chest by means of sounds, either elicited by percussion, or produced by the action of organs within the thorax, is among the most important of the resources belonging to this division of knowledge. It seems wonderful that it should have been left for physicians of the present age to apply the sense of hearing to the investigation of phenomena beyond the reach of vision and of touch, and for which hearing is the only available method of perception. But this is like many other great discoveries, in the circumstance that when it had once been made, every body wondered that it had never before occurred to him, as well as in the fact that accident led to the first suggestion, or, at least, to the first practical improvement in the art. Avvenbrugger and Laennec will ever be remembered as the fortunate individuals, who, by this discovery, have not only extended the boundaries of knowledge, but have opened an entirely new path of investigation. It would be remote from my present undertaking, to enumerate the various additions which have been made to medical knowledge by means of auscultation, since the practice was discovered, or since it was introduced among our countrymen by Dr. Forbes. During the present year we have gained some accessions to this department of our medical literature, particularly a translation of the excellent work of M. Louis, on Tubercular Phthisis, by Dr. Cowan, and the treatise of Dr. James Clark, on the same subject, in the *Cyclopædia of Practical Medicine.*

Although so many physicians of great ability have occupied themselves with the theory of auscultation,

the science is as yet too recent to have attained the certainty which is to be desired, even in its fundamental principles. There are many questions, still undetermined, which relate to sounds emitted by the organs of respiration, and by the actions of the heart. On this last subject a great deal of controversy has taken place, and much ingenuity has been displayed by various pathologists who have supported different opinions. The most novel speculation connected with it is that which Professor Magendie has set forth in his lectures during the present year. By attributing the two sounds of the heart to two impulses against the parietes of the chest, supposed to take place under different physical conditions of the organ, and in different parts, M. Magendie thought he had discovered an easy and simple explanation of the phenomena. His opinions, however, on this subject, have been strongly controverted by M. Bouillaud. Their most complete refutation, and the best exposition of results obtained by observation and experiment on the action of the heart, and the sounds connected with it, are to be found in the recent and very valuable work of Dr. Williams.

The course of lectures in which the views of M. Magendie, on this subject, were developed, has afforded some striking instances of the successful application of strictly scientific principles to the investigation of vital phenomena, and in no example more remarkably than in connexion with the theory of the circulation. I may observe that the late Dr. Parry, to whose experiments on this subject I have already referred, was led, by the results ob-

tained by him, to adopt a theory which approached very near to the simple explanation of this process lately set forth by Magendie. Dr. Parry rejected the previously established opinion, which ascribed muscular power to the coats of the arteries, a vital property which was supposed to be capable of assisting the action of the heart, and he considered the heart as alone exercising the propelling force. Dr. Parry failed to perceive the aid which elasticity affords in the propulsion of the stream of blood, by giving rise to contraction of the arterial tube after it has been distended beyond its usual state. He could not discover any perceptible dilatation of the arteries, and attempted to account for the pulsation which is perceived on applying a finger to an artery, by ascribing it to a displacement of the vessel, or to a sort of jerk. This, to many persons, has always appeared to be very unsatisfactory. M. Magendie attributes the pulse to dilatation of the artery, which, being an elastic tube, is distended or increased in its calibre when the stream of blood is forced into it from the heart, and is again contracted, not by the vital or muscular action of its coat, as it was long believed, but through the elasticity of the vessel itself, which, after forcible distention, naturally resumes, the distending cause being removed, its usual calibre. The theory of M. Magendie seems to be established on facts, and on correct physical principles; yet we must not omit to observe that it accounts but imperfectly for many morbid phenomena, or rather, that it leaves them wholly unexplained.

3.—*Necroscopy and Pathological Anatomy.*—The

third department of medical knowledge and research, viz. pathological anatomy, is ever receiving accessions and improvements. I shall not attempt to enter on any general survey of this division of my subject, or occupy the time of this meeting by enumerating the authors who have distinguished themselves by their discoveries. I shall confine myself to a few remarks on some particular subjects which are of the greatest interest at the present time.

The most important work, that has appeared very lately, on diseases of the brain investigated by pathological anatomy, is the 5th volume of the *Clinique Médicale* of M. Andral.

The names of Abercrombie and of Andral are as universally, as they are justly celebrated, in connexion with the pathological anatomy of the brain; but the elaborate and important researches of Dr. Bright, in this country, and of Dr. Foville, in France, have not yet, unless I am greatly mistaken, excited so much general interest as they deserve, and are destined hereafter to call forth.

The interest attached to anatomical investigations of the encephalon would be greatly increased, if we could only gain some secure steps towards an elucidation of the physiology of that organ; and it is much to be regretted that so deep an obscurity yet hangs over this subject, and involves even the most general and leading facts connected with it. An excellent analysis of the results of experiments made during late years, on animals, by MM. Flourens, Magendie, Rolando, Bouillaud, and others, by cutting away, successively, different portions of the encephalon, and noting the effects on the mani-

festations of sense and motion, was read before the Cambridge meeting of the British Association, by Dr. Henry. Even in these results there are great discrepancies, and the main facts that may be thought to have been deduced from a comparison of them, are strongly opposed by inferences obtained on a different and, as it appears to many, a safer path of investigation, by Dr. Foville. The wide differences which yet exist among physiologists as to the functions of different structures in the encephalon, and of different portions of the nervous system, is, at present, truly remarkable, and, as it must be admitted, somewhat discouraging. Many persons had considered it as proved by the researches of Sir Charles Bell and M. Magendie, and confirmed by the pathological observations of Velpeau, Ahlberg, and others, that the posterior strands of the spinal chord, and the posterior roots of nerves thence arising, are the organs appropriated to the sense of touch; and that the anterior strata of the same chord, and the anterior roots have, for their function, the communicating of impulse to the organs of locomotion. This view of the physiology of the nervous system, seemed to have been borne out, and formed into a consistent theory, by the researches of M. Foville, who had previously inferred, from pathological facts, that the cerebellum, into which he traced the posterior strata of the chord, is the seat of sensation, and the cerebral lobes, with which the anterior strata are in close relation, the primary organ of muscular motion. These doctrines, however, are not only at variance with the conclusions of Flourens, Rolando, and Bouillaud, but they

have been more lately opposed by the arguments of Bellingeri, founded on a multitude of pathological facts. By Bellingeri a new opinion has been maintained, which, by the author, is termed the doctrine of nervous antagonism—*antagonismo nervoso*. The main principle of this doctrine is, that the posterior portions of the spinal chord and the cerebellum whence they are considered as derived, are related to motion not less than the anterior strata of the chord and the lobes of the cerebrum, but that the nerves deduced respectively from these parts, antagonize each other; the former class having for their function, to supply with nervous energy, or to convey the stimulus exciting muscular action, to all the muscles of extension in different parts of the body; while to the latter belongs the office of imparting a corresponding impulse to all the flexive systems of muscles.

It must be observed that Signor Bellingeri, although he appears to oppose the opinion of Sir Charles Bell in ascribing the office of regulating, in part, the faculty of motion to the posterior strands of the chord, and the posterior roots of nerves thence originating, while by that celebrated anatomist the function of these parts is considered to be related solely to sensation, yet reconciles these opinions by an alleged discovery, that the roots of nerves in the posterior part of the chord consist, in reality, not of one, but of two sets of filaments. One of these sets of nervous filaments is supposed, by Bellingeri, to be sensiferous, or the organ of sensation, and the other motiferous, or related, as we have seen, to muscular motion.

While adverting to the opposition of opinions yet subsisting between the most celebrated anatomists, as to the physiology and pathology of the brain and nervous system, I shall only further observe, that Dr. Foville has maintained, with great ingenuity and accuracy of research, the opinion, that different morbid phenomena may be traced to different parts of the encephalon, and even of the cerebral lobes; that when hemiplegia, for example, affects the upper extremity, first and principally, the seat of disease is in the fibrous structure of the posterior and middle lobes of the brain, or in the optic thalami; and that the lesion of structure which gives rise to paralysis of the lower extremity is seated in the anterior lobe, namely, in the corpora striata. In this, and in some other particulars, M. Foville has been opposed by Andral and other writers, and the subject is still a matter of controversy. I may venture to state, that the opinion of some of the most experienced anatomists of the brain, in this country, is decidedly on the side of Dr. Foville. I am informed by Dr. Hodgkin and Dr. John Sims, whose researches into this subject have been very extensive, that the result of their inquiries has convinced them of the general accuracy of Dr. Foville, and induced them to believe that the facts brought forward by Andral, and others, in opposition, admit of a different explanation. Dr. Sims has lately read some interesting papers, on the pathology of the brain, before the Medico-chirurgical Society, and is still engaged in the same inquiries, which appear likely to throw more light on the physiology of that organ than is to be obtained by the method of experiments.

One of the most remarkable additions to pathological anatomy, to which the few last years have given origin, is the discovery of organic disease in the kidneys, in cases of dropsy with coagulable urine.

Dr. Blackall was the first who drew the attention of physicians to the presence of albumen in the urine of dropsical persons. He observed the fact that, in many instances of the disease just mentioned, the kidneys secrete a fluid coagulable by heat; and, considering such cases to be a particular class, he laid down some practical rules founded on this circumstance. But to Dr. Bright we owe, entirely, the remarkable discovery that, in a great proportion of these cases of dropsy in which the urine contains coagulable matter, organic disease is also present in the kidneys. The announcement of this discovery excited much attention, and numerous observations on the subject were published by several physicians within a short period. Dr. Gregory and Dr. Christison in particular, have related eighty-seven cases in which the granular deposit was constantly found when a fatal result gave an opportunity for examining the kidneys. It was soon, however, discovered that many exceptions exist to Dr. Bright's observations, which have been strongly stated by the late Dr. Darwall and Dr. Copeland. This subject has been carefully investigated by Doctors Osborne, Graves, Elliotson, and others, who have shewn that the urine often contains albumen under circumstances which preclude the supposition of organic disease in the secretory organs. One remark seems to be of the greatest

importance in connexion with this subject. The fact that albumen is present in the urine of many dropsical persons, is chiefly interesting as giving rise to a practical discrimination. It has been supposed that such instances of the disease require a particular treatment; that they are of a character more inflammatory than other cases, indicating more strongly the use of antiphlogistic means: and of the correctness of this observation I entertain no doubt. It seems to have been the opinion of Dr. Bright, and the observation was strenuously enforced by Dr. Blackall, that mercury is injurious in all cases of this description. I shall take the liberty to state, that this question has been brought to the test of experiment, during several years, at the Bristol Infirmary. In numerous cases of dropsy, with albuminous urine, the treatment advised by Dr. Blackall has been fully tried, and it has failed to produce a cure; but the same cases terminated in recovery under a moderate use of mercurial remedies. I may add that, in the cases which terminated fatally, the appearances described by Dr. Bright have been generally discovered.

I must not pass from this division of my subject, without adverting to the late reseaches of pathological anatomists into the nature and origin of malignant tumours. It was formerly the custom to regard tubercles and encysted tumours of all descriptions, as the simple results of inflammation, or of the accidental effusion of coagulable lymph. The merit of discarding this notion, and of first directing pathological inquiry into a different course, is due to Dr. Baron, who, in a remarkable manner,

anticipated, or nearly approximated to some doctrines lately maintained. Dr. Baron advanced the opinion that all diseases of this class are growths extraneous to the textures in which they originate, and that their formation commences in vesicles which have the nature of hydatids. He subsequently limited the acceptation of hydatids, defining them to be vesicular bodies with fluid contents, without, however, entirely abandoning the opinion that such organizations have a parasitical origin. The investigation of these diseases, as well as other questions in morbid anatomy, has assumed, within a few years, a more definite form than heretofore belonged to it; and it is not difficult to divide the opinions which have at present supporters, under certain heads, which however are perhaps as numerous as the nature of the subject renders it possible that they should be. Malignant diseases may be conceived as having their origin in the blood, and as incidentally deposited on particular tissues, which become, secondarily, the local centres of their propagation: or they may be regarded as originating in morbid secretion. The first of these opinions has been powerfully maintained by Dr. Carswell, who appeals in its support to various arguments, as well as to facts actually observed by himself. The second is the doctrine of M. Andral, and is stated in his *Précis d'Anatomie Pathologique*. A different opinion is that of Dr. Hodgkin, who has described, in the 15th volume of the *Medico-chirurgical Transactions*, a series of actual observations leading to the result that carcinoma, and some other diseases of a malignant

character, are the product of an adventitious organization. The first and the essential part of the morbific process, is, according to this excellent pathologist, the formation of a cyst, which, however, has not the nature of an hydatid or parasitical growth. Dr. Carswell admits the existence of these cysts, but considers them as simple modifications of serous membrane, and as merely accidental seats for the deposition of cancerous matter.

I shall not presume to offer any opinion of my own on the merits of this controversy, which is only to be decided by a great number of minute and accurate observations. I understand, however, that the views maintained by Dr. Hodgkin, have been adopted by one pathological anatomist, of great research in this particular subject, who formerly opposed them, but was convinced of their accuracy after examining the proofs displayed by Dr. Hodgkin. It must be admitted that the hypothesis which places the original seat, if we may so speak, of cancer in the blood, is opposed by great theoretical difficulties, and seems scarcely reconcilable with the fact, that persons affected with cancer are sometimes cured by excision of the diseased part.

4.—The remaining method of investigation, is by observing the effect of different agents in increasing or lessening the phenomena of diseases. An useful application of remedies, or the therapeutic art, is, indeed, the ultimate aim of all medical researches; but an observation of the results ensuing from such attempts, whether successful or otherwise, is, in another point of view, to be considered among the resources for elucidating the nature of diseases.

The actual pathological state may be in part ascertained, or, at least, we may often obtain some knowledge respecting it, by marking the effects produced by remedial agents, or by what old writers term "the doctrine of the *Juvantia and Lædentia.*"

The four methods of investigation which I have enumerated, are in many instances jointly applicable to the elucidation of diseases, or of the pathological states on which the symptoms depend; and when this is the case, the physician proceeds not upon conjecture, or upon vague hypothetical principles which are liable to change with fashion or caprice, but upon the secure basis of strictly inductive reasoning. In respect to some diseases, and in the administration of some remedies, we cannot avail ourselves of all these means of investigation. In certain instances we ascertain merely that a particular remedy will generally remove a particular disorder or symptom, without knowing precisely what is the pathological condition that is to be acted upon, and still less understanding *how* the remedy produces the effect. Such remedies are termed specifics, and the use of them, thus administered, is styled empirical practice. There is, perhaps, reason to apprehend that we are still obliged to practise empirically in more frequent instances than we are willing to allow; but by the advancement of pathological anatomy, and scientific investigation, the number of these instances is every day diminished.

I shall now offer a few remarks on the latest improvements which have been attempted in the

therapeutical part of medicine; in the mode of administering old remedies, and in the discovery of new.

I must not fail briefly to advert to the opinions of Hahnemann, and his followers, or what is termed the homoiopathic system. The consideration of this subject belongs to therapeutics: the theory to which it appeals is arbitrarily connected with a method of practice with which it has no essential relation, and the practical method is the only important part of the pretended discovery. What is chiefly peculiar in it, though the advocates of the system assert the contrary, consists in the use of potent, and often poisonous, remedies, administered in extremely minute quantities: in quantities so small, indeed, that all previous opinion, and we may perhaps venture to say, all experience, testifies them to be wholly inert and destitute of efficacy. The principles by which it is pretended that we are to be guided in the administration of these remedies, are as hypothetical as anything that can be imagined. It is taken for granted, as a preliminary step, that we are in possession of a complete theory of every particular disease, and know precisely of what nature were the first deviations from health in which it originated, and of what character is the whole train of subsequent morbid actions. This being assumed as known, which, in point of fact, is unknown in almost every existing disease, the homoiopath regulates his practice accordingly, and, instead of using counteracting remedies, professes to adopt such as may set up a sort of action in the animal economy, which is similar in nature to the particular morbid action that constitutes the disease.

Older practitioners seem to have acted upon some indication of this sort, without being aware of it, who, when a patient had diarrhœa, made a point of purging him; and when he had gouty inflammation, of stimulating and heating him; but they never were so absurd as to attempt to reduce this proceeding to a principle of action. The homoiopathic physician, in following the maxims of his school, has always a wide field for conjecture and discursive reasoning, as to the kind of morbid action in which the disease to be treated consists; and if his practice is found to be unsuccessful, he has an obvious subterfuge: a wrong judgment has been made by the practitioner, as to the nature of morbid action, and of the remedies appropriate to the case. For this reason it may be expected that the homoiopathic sect will never admit the conclusiveness of experiments, like those of late instituted in France, with the view of bringing the truth of their system, or its practical advantages, to the test of an actual trial of its effects.

An attempt has been made by Dr. Messerschmidt, who is styled "*Stadt* and *Dom-physicus*," at Naumburg on the Saale, to bring the doctrine of homoiopathia within the region of scientific and rational principles of medicine, but although the author has, with this view, given up, in part, the system of minute doses, his attempt cannot be termed successful. Messerschmidt's memoir, on this subject, was published in *Hufeland and Osann's Journal* for the last year.*

* *Die Homœopathie als eigenthümliche specifische Heilmethode in ihrem richtigen Verhältniss zur rationellen Heilkunst dargestellt.*

I must briefly mention a few of the particular remedies which have been newly discovered or lately announced.

Among these none has been brought forward with greater pretensions than kreosote, of which an account was first published by Dr. Reichenbach, of Blansko, in 1833. By Professor Reich, who read a memoir on the subject of kreosote before the Hufelandish Medico-chirurgical Society, which was published during the last year in Germany, this discovery is termed one of the most splendid of our time. The powers of kreosote had been highly extolled by various writers in Germany, long before the substance was much known in England. It has been recommended in very different disorders; and it may hence be inferred that its real properties are not yet well ascertained, though there seems to be a very general disposition, especially among the German physicians, to think highly of its efficacy. By Dr. Reich, who first tried it on his own person, and who published a number of cases, exemplifying his success in its use, kreosote was chiefly given in rheumatism, and in other painful disorders affecting external parts.* It has been used externally, in solution, by Dr. Berthelot. Dr. Günther, of Cologne, recommended it in pulmonary affections. Professor Berndt, of Greifswald, was the first, as far as I know, who used it in diabetes, in which practice he has been followed by Dr. Elliotson.†

* *Beobachtungen über die medicinischen Wirkungen des Kreosots. Von Prof. Dr. Reich in Berlin.*

† *Auffallende Wirkung des Kreosots zur Heilung des Diabetes Mellitus, von Geh. Med. Rath and Professor Berndt zu Greifswald.*

Veratria is another substance on which a similar remark may be made. There are strong statements in its favour; rather too strong, indeed, to secure entire confidence. A suspicious circumstance is the mode of its application. There are so many instances in which nervous affections have been relieved by rubbing and stroking, from Valentine Greatrakes down to the time of Mesmer and Perkins, that we are naturally disposed to suspect that the efficacy of remedies so applied is aided by the imagination.

Improvements in operative surgery cannot be expected to be, within any given period of time, so numerous as those which are made in other branches of the healing art. We have, however, within the last year, accounts of many difficult operations performed with remarkable success, by eminent surgeons of the present day, who, according to this most decisive test, surpass their predecessors as much in practical ability, as they are allowed to excel them in scientific knowledge.

Some of the foreign journals contain remarks which may be useful, when we attempt to form a critical estimate of operations proposed or practised for the cure of cancerous and other diseases affecting the uterus or its appendages, by Dupuytren, Bellini, Stolz, Recamier, and Lisfranc. It must be allowed that the reports as yet obtained respecting these operations are, in general, far from encouraging. Some remarks by Dr. Krimer, of Aix-la-Chapelle, on this subject, published last year in *Hufeland and Osann's Journal*, are well worthy of attention; and they tend to lessen our confidence in the accounts

of cures obtained by operations for excision of the uterus. A more hopeful prospect is held out by the attempts to supersede, in future, by lithrotriptic instruments, one of the most difficult and painful operations. One of the most important suggestions which has been of late brought forward in operative surgery, is the proposal of M. Amussat, to substitute the torsion or twisting of arteries, for ligature. The experiments which have been made in Paris, and elsewhere, justify very sanguine expectations of the entire success of this new method. The able and interesting memoir of Mr. Hetling, published in the Transactions of the Association, on operations for the removal of osteo-sarcomatous tumours in the face, does not belong to the past year.

After these imperfect observations on the present state of medical art and science, I must offer a few remarks on the additions lately made to a department of knowledge which may be termed medico-political. The prevention of diseases is better than the art of curing them: it equally implies an acquaintance with their nature, and a previous study of their causes, and therefore belongs equally to the medical profession. The preventive art, when considered on a great scale, or with relation to the health of the community, becomes a subject of national interest; and in all arrangements in which the public health is concerned, legislators are obliged to have recourse to the aid of physicians, and to avail themselves of knowledge which is the result of medical study and experience. The government of France, which has always taken the lead among

European nations, in promoting the advancement of science, and of every thing that can add splendour and attractiveness to intellectual cultivation, has, in the instance to which I now refer, with an equal regard to utility, established a council of physicians termed "*Conseil de Salubrité,*" whose business it is to watch over circumstances calculated to affect the health of the community, to acquire information on all subjects connected with it, and to render such knowledge available, under contingencies that may, from time to time, occur. The British government has, more than once, experienced the want of some arrangement of the same kind; a want which has been, if I am not mistaken, but imperfectly supplied by inquiries instituted occasionally, and when circumstances have momentarily called for them. The correctness of information so obtained, must obviously depend on the selection of individuals; and the choice has not always fallen upon the best informed persons, or on those who have been possessed of the most accurate knowledge of the subjects which it was desirable to elucidate. It has been publicly stated, that the government of this country was on the point of reversing all the regulations of quarantine, as a result of the parliamentary inquiry instituted some years ago; and that this design was only prevented from taking effect, by a paper in the *Quarterly Review,* which convinced the legislature that they had been imposed upon, and were on the point of committing a mistake, which, if the opinions now prevalent are founded in fact, might have occasioned most calamitous results.

The foundation of accurate knowledge on ques-

tions relating to public health, must be laid, for the most part, in medical statistics. Researches of this description are the organ by which information is to be obtained respecting the influence of climates, and of local and moral circumstances, on human health and longevity. The most popular of these investigations, and those which are at present most interesting, relate to the prevalence of fatal diseases, and the efficacy of means that may be proposed and adopted for preventing them or diminishing their influence. I cannot be expected, on the present occasion, to enter into every subject connected with these inquiries, important as they are, or to survey accurately the state of information respecting them. I shall only attempt to make a few very general remarks on the progress of *statistical inquiries* relative to health and diseases.

There is no method of research that is more in harmony with the philosophical character of the present age, than inquiries which are termed statistical. There is no investigation which is more calculated to extend our knowledge, on a great scale, both of the physical and moral condition of mankind, without opening the door to anything discursive or imaginary. Statistical researches are likely to afford the most satisfactory solution of many difficult problems, which have been thought, heretofore, to lie within the region of speculation; and our mistrust of the speculative way of treating such questions is increased by the remark, that in almost every inquiry submitted to the test of accurate numerical calculations, the result has turned

out in direct opposition to what appeared to be the most probable conjecture. Who, for example, would have imagined that human life would not exhibit a longer average duration in the genial climate of Greece, Italy, and other countries on the northern coast of the Mediterranean,—where the temperature of the air is equable, the seasons moderate, and the region, as it is supposed, favourable to the full development of the human race in the perfection of their physical strength and beauty and intellectual vigour,—than on the inclement shores of the Baltic and the Frozen Ocean? It has been demonstrated, however, in a memoir drawn up with great accuracy of research and presented to the Academy of Sciences, that human life has double the duration, or that men live, on the average, twice as many years in the *Ultima Thule*—the bleak Iceland and on the Norwegian coast, exposed to the rigors of an arctic climate, to wintry storms, and immersed in almost perpetual fogs, as in the delightful plains of Campania, and the valleys of Andalusia. Medical statistics are likely to afford an accurate knowledge of all that relates to the effect of external agencies on human bodies, whether as inducing diseases, or as protecting from their influence. It is hence that we must hope for information as to the means of escaping, as much as possible, from the dominion of those causes which give predisposition to various distempers, or call them into action when naturally engendered.

No work of considerable extent has appeared in this country, expressly devoted to medical statistics, since the well-known collection of Dr. Bisset Haw-

kins; but many important contributions have been made to this description of knowledge, in particular departments, by M. Villermé, and several other writers on the Continent. Among the most interesting of them are the inquiries founded chiefly on the English tables of population, edited by Mr. Rickman. M. Villermé has thence deduced some results which have an important bearing on questions in political economy, and others which belong particularly to our subject. We are all aware of the unhealthiness of low, marshy districts, which subject the inhabitants to agues and dysenteries; but nobody would have suspected that the atmospheric conditions of such districts are enormously destructive of the lives of young children, who are scarcely obnoxious to agues or dysenteries, and who might be supposed to be, in general, less exposed than other persons to many external causes of disease. The mortality, however, falls greatly upon children. It has been demonstrated, in a memoir which sufficiently proves the value of these researches, that in the Isle of Ely in particular, which may be considered as affording a specimen of the marshy and unwholesome districts of England, more than one-fourth part of the entire number of children born in any given period die before they have attained the age of one year; while in the whole of England the mortality, during the first year, is not more than one-fifth. One-third part perish, as it appears, in the Isle of Ely, before the end of the second year; but only one-fourth in the whole of England. One-half die in the same district before the end of the fifteenth year of their age; while in the whole kingdom the same propor-

tional number of persons born survive the twenty-fifth year of life.

An extensive and an important branch of medico-statistical science, relates to the causes of mortality, to the diffusion of particular diseases, and to the proportions of deaths arising from them respectively. The prevalence of epidemic fevers and pestilential disorders excited the attention of mankind in early periods to note the destruction of life occasioned by such overwhelming and sudden calamities; but the slow yet far more extensive mortality resulting from pulmonary diseases, was, in a great measure, overlooked till a comparatively late period. It is, however, now well known that tubercular phthisis is the greatest destroyer of men, in many regions; and it seems probable, that a greater number fall victims to its ravages, the whole world being considered, than to any other class of diseases. On the mortality arising from pulmonary disorders, in various climates, we owe much valuable information to Dr. James Clark, whose late treatise on phthisis, contained in the *Cyclopædia of Practical Medicine*, is the most complete and compendious work as yet written on that most interesting subject.

I shall advert to the proportional frequency of another class of diseases, partly with the view of noticing how ignorant of medical statistics was the last generation of physicians. Inquiries were instituted, by Dr. Powell, into the frequency of mental derangement, and the proportion which insane persons bear, in this country, to the general population. The result deduced was, that in the year 1800 there existed, in England, one lunatic to every 7300 per-

sons. We have no reason, notwithstanding the apprehensions which have been expressed, to suppose that insanity is an increasing malady: yet we are now well assured that there is, in England, at least one lunatic to every thousand of the inhabitants; and there is good reason to believe this to be much below the real proportion. It is so, at least, in Wales, as well as in Scotland where there is one lunatic to 574 of the population. It is less than the proportion existing in the Rhenish Provinces belonging to Prussia, as we learn from the researches of Dr. Maximilian Jacobi; and very much less than the number ascertained in Norway, where, to the shame of countries boasting of greater improvement in social culture, the most accurate inquiries have been made, and where, perhaps, better regulations exist for the disposal and relief of the insane, than in any other part of Europe.

Another interesting topic in medical statistics, relates to the influence of habits, of professions and trades, on the term of human existence, and on the prevalence of various diseases. Very valuable contributions have been made to this department of knowledge, in England, by Dr. Forbes and Mr. Thackrah; and on the Continent, by MM. Villermé, Benoiston de Chateau-Neuf, and Lombard, of Geneva. The inquiries of the writer last mentioned, have for their particular object the influence of trades and professions, as increasing the frequency of phthisis; and they comprise various countries in Europe. The results are very important in their practical bearing, and as furnishing suggestions for the prevention of this disease in those who are ap-

prehended to labour under a predisposition to it. An inquiry which is not without its value, relates to the influence of professions on the total duration of life. A memoir of particular interest to our profession, has been written in connexion with this subject, by Professor Casper, of Berlin, on the duration of life among physicians. It appears that medical men are among the most short-lived of the whole community. In 100 clergymen, 42, according to Casper's calculation, attain the age of 70 years; in 100 persons employed in agriculture, 40; in 100 military men, 32; while the same age is attained by only 24 out of 100 physicians.

While I am adverting to the subject of statistical inquiries, I must not omit to mention the curious observations of M. Quételet, on the progressive development, at different periods of life, and under different circumstances, of the human powers and faculties, both physical and moral. It has long been supposed that the laws of development which govern our mental and moral constitution, are intimately related to physical organization, and to physical powers; but this relation was never illustrated more fully, or placed in a more striking point of view, than by the statistical researches of M. Quételet and M. Guerry. The development of propensity to various criminal actions at particular periods of life, and at particular seasons of the year; the correspondence of such periods with those at which different forms of mental derangement appear, and with the ages at which men become most capable of various intellectual exertions, in a triple scale, furnishes matter for a train of curious observations,

which seem likely to throw light on the moral constitution of mankind. The work of M. Guerry, "*Sur la Statistique Morale de la France,*" is one which opens an entirely new field of philosophical research. It belongs, however, not immediately to my present subject, and I shall venture only to make a brief observation on one of the author's results. It has been proved, by his calculations, that in many parts of France, where the people have more intellectual cultivation than in other departments, their moral condition is, nevertheless, worse; a fact which, ascertained as it is, cannot be too deeply considered in these days, when intellect is deified and worshipped as the sole divinity. We may hence learn, that those who pluck too eagerly from the tree of knowledge, without gathering a more wholesome fruit from that sacred plant which grows fast by it in the garden of life, only take for themselves what, like the golden apples of an eastern fable, will crumble in the eating into dust and ashes.

There are various questions related to the subject of public health, the mode of preserving it from the incursions of pestilence, and the nature of epidemic diseases, which have long been discussed, and are yet not fully decided. We have been for a long time free from the attacks of some fatal maladies, which formerly committed fearful ravages in this, as they still do in other quarters of the world. It has been generally believed that our immunity from these calamities is the result of restrictions established by law on intercourse with countries where such diseases still prevail, and are supposed to originate;

but there are now many who entertain doubts upon this point, and are dissatisfied with the quarantine regulations, and the whole of this subject requires a new and a more careful scrutiny than it has yet undergone. From another destructive pestilence, which we were not able to banish, it has pleased Providence to furnish us with an antidote, in the discovery of vaccination; but of late the public confidence in this resource has been somewhat shaken; and a full and satisfactory exposition of the facts which bear upon this subject, is greatly to be desired. I cannot attempt, in such a memoir as the present, to enter fully into either of these inquiries; but I shall offer a few remarks on the actual state of opinion respecting them, as well as on that of our knowledge, or, to speak more correctly, of our ignorance respecting the nature and propagation of cholera.

The quarantine system of England has been occasionally a subject of complaint, as imposing restrictions injurious to commerce, and impeding the freedom of intercourse between nations; but the English system is infinitely less oppressive than that of France; and the French regulations are milder and less absurd than those established in some other countries, particularly in the Austrian States. From a memoir on this subject, read by Dr. Link, during the last year, before the Medico-chirurgical Society of Berlin,* in which the quarantine regulations actually in force in the South

* *Die Quarantaine-Anstalten im Südlichen Europa. Von Geh. Med. Rath Link, in Berlin.*

of Europe are considered, we learn that the "*Regolamento*" for the littoral districts of the Austrian States, was promulgated just eighty years ago, and re-enacted in 1801, without the least improvement or alteration in the spirit of any of its ordinances; so determined are some of the nations of Europe to adhere to what they deem the good old customs of their forefathers. It may be remarked, that these regulations were founded on experience, though it was not on an enlightened experience. The original code seems to have been only a reduction to form, of the notions long prevalent among the Franks in the Levant, or of practices founded on those notions. The regulations proceed on three maxims: first, that the poison of plague is not disseminated through the air, but is only communicable by contact;—secondly, that it adheres to certain substances, and is incapable of infecting or attaching itself to others;—thirdly, that the best mode of destroying infection is by means of fire, and, next to that, by exposure to air. The recommendation to employ the former, by preference, is so vigorously enforced, that if a ship is proved, or only *suspected*, to have the plague really on board, the words of the *regolamento* expressly declare that it shall be driven out of port and burnt.* Hence, as Dr. Link observes, the crews of vessels which happen to be found in that unfortunate predicament can no where obtain shelter, or the common offices of humanity, but by putting into the port of Marseilles, where

* The terms of the *regolamento* are as follows:—"*Quando il bastimento si manifesti o si sospetti attaccato da attual morbo, sará scacciato, scortato ed anche incendiato.*"

milder customs prevail. The sick are here received into a hospital, where sanitary regulations are established; they are visited by medical officers, who must, according to law, be covered from head to foot in a particular lazaretto costume. This is a complete panoply of so grotesque an appearance, that, associated as it is with the most horrible impressions, it strikes terror into the unfortunate patients.

The sanitary laws of France are very severe and oppressive, and efforts have been made, during late years, to procure their remission or repeal. They do not, like the Austrian code, claim the veneration which is often conceded to ancient absurdities. The code at present in force was enacted in 1822; but even this is pronounced, by an able and judicious writer, to be "an atrocious system, bearing the impress of terrors which held in thraldom the minds of its enactors, and totally erroneous as to most of the principles on which it is founded." In the year 1833 a petition was presented to the Chamber of Deputies, drawn up by M. Chervin, praying for the mitigation of this law. The prohibitions against intercourse, laid down in the French code, have reference to several diseases not regarded as pestilential by those who framed the quarantine laws of England, and some other countries. The existence of yellow-fever, lepra, typhus, cholera or plague, in any place, is considered as rendering communication dangerous. "Of these diseases," says M. Chervin, "the four first are certainly devoid of any contagious property." He ventures not to pronounce, positively, respecting the fifth, but evidently leans to-

wards a similar persuasion even in the instance of plague. The sanitary regulations of the French code, are found to be so oppressive in their operation on commercial intercourse, that their opponents, or those who advocate a change of system, are, perhaps, induced to view the arguments which support their own opinion as more decisive than they really are. Thus M. Bouillaud pronounces, in general terms, that the existence of contagion is one of those scientific superstitions of which it is to be hoped that the world will soon be rid. We may expect a new elucidation of questions related to this subject, in the report read by Dr. Henry, at the Edinburgh Meeting of the British Association, on the state of our knowledge of the laws of contagion, the appearance of which has been long delayed. A powerful statement of the facts which are most strikingly in favour of the prevalent opinion, is to be found in the paper already alluded to, which first appeared in the *Quarterly Review*, and was acknowledged by Dr. Gooch. That contagion, however, and human communication in general, is only one of the operative agencies in the spread of plague, and that a great variety of other conditions contribute to direct its progress; that its incursions, often periodical, obey laws in a great measure analogous to those which govern other epidemic diseases, any person will be convinced who reads attentively the excellent and truly philosophical treatise of Dr. Hancock, on the laws of pestilence. I may take occasion to observe that a short essay, by the same writer, on the progress of cholera, contains some of the best remarks on this subject, and

the most convincing elucidations of the obscurities which hang over it, that have yet appeared.

With respect to the question whether cholera is a communicable disease, there is still some diversity of opinion, though the number of those who believe it to be contagious is, on the whole, if I am not mistaken, greatly diminished since the period of its first appearance in Europe. The physicians of France reject this opinion in general, but not without some exceptions. M. Pariset, who has had more extensive opportunites of observing the march of epidemic and pestilential diseases than most other men, who was sent by the French government to Spain to watch the progress of yellow-fever in that country, and who has travelled through Egypt with a view of investigating, by local researches, the history of the plague, expressed to me his conviction that cholera was introduced into the metropolis of France by infected persons who arrived there from places, in England, where the disease prevailed at the same time. In other parts of the Continent which have been visited by cholera, the prevailing opinion is, that this distemper is incommunicable. This conclusion has been strongly supported by Dr. Ellissen, hôf.-medicus, at Chartow, in a memoir published, in the last autumn, in *Hufeland's Journal.* Dr. Ellissen had extensive opportunities of observing, personally, the inroads of cholera in the North of Europe, and he pronounces, positively, against the opinion of its contagion. The difficulty of arriving at any satisfactory conclusion on this subject, appears to be insuperable in the present contradictory state of the information obtained from different

quarters. It has been stated by Dr. Cranfield, that, during the epidemic prevalence of cholera in Dublin, in 1834, "the disease, when it once gained entrance into a house, was generally found to spread, and, seldom content with one victim, it occasionally carried away five or six. Very many of those who attended the sick were attacked, and it was especially observed that several of the persons sent to cleanse infected houses, such as whitewashers and chair-women, met their fate while thus employed; and that porters who packed and removed furniture from such houses, were attacked. The frequency with which the disease spread in a family, when it had once gained admission, gave abundant opportunities of witnessing the stage of premonitory diarrhœa." On the other hand, we are informed by Hufeland, that, during the epidemic of the same year, in Hamburg, the disease occurred more than once, in the same house, in only *four* cases; while the mass of the population were quite indifferent as to its existence among them. In adverting to another view of this subject, there are abundant facts within the knowledge of almost every person, which prove, or appear to evince, that the spread of cholera depends, in a great measure, on local influences: it is attached to certain spots, lurks on the banks of rivers, near drainages, estuaries, and ports. Yet we find in the report of the Parisian Commission, published in 1834, a remark which would scarcely have been made, if the fact had not been rather a general one, that in some localities infected by putrid emanations, the disease was neither more frequent, nor more fatal, than in other situations. Facts equally

difficult to reconcile have been observed in many parts of this country. I shall only refer, in proof of this remark, to the excellent statement drawn up by Dr. Symonds, and published in the third volume of the *Transactions* of this Association, in reference to the appeareance of cholera at Bristol. The result to which the consideration of the whole subject leads us, is, that the principal causes which govern the epidemical diffusion of cholera, must be sought for in conditions of which we are, as yet, unable to appreciate the influence.

I ought not to pass from this subject, without briefly adverting to the history of the outbreaking of cholera in Portugal, which has been made known during the last autumn. If we were to judge from the facts, alone, which are connected with this event, and from the strong and clear statement of them made by Mr. Lardner, we should conclude cholera to be one of the most decidedly pestilential diseases. It appears that this malady had no existence in Spain or Portugal until the period when a steam-boat arrived from England, having troops on board, about the beginning of 1833. The disease prevailed at the same period in England, and in the port whence the steam-boat took its departure: it was found in the vessel at the time when the latter reached its destination: it broke out, for the first time, in the hospitals to which the sick were removed, and spread from that point, in a line which could be traced, into the interior places of Portugal.

Cholera has appeared in London every autumn since its first entrance into this country; but the number of deaths, within the bills of mortality, has

in every year been less than on the preceding. In the course of July, August, and September, there were, in 1832, 2390 deaths; in 1833, 1233; and in 1834, only 488. What the present season is destined to produce, we have yet to learn. Cholera was epidemic in Dublin in 1834, and very fatal among persons of the more opulent classes. In Hamburg it also prevailed during the same year; and here the mortality fell chiefly on the females of the lowest classes. It broke out in the islands of the Elbe; and then appeared in some vessels which had not arrived from any place where cholera prevailed. The whole number of cases was 133, of which 80 were fatal, and nearly all these occurred in the month of September.* Persons who were bled and took emetics were, as Hufeland informs us, speedily relieved; but if these means were delayed for two hours, the case was, generally, hopeless. In Dublin, it has been stated by Dr. Cranfield, that considerable advantage has been derived from the use of super-acetate of lead, in large and frequent doses, combined with moderate doses of opium; and this method of practice appears to be the greatest improvement that has been made for a long time in the treatment of cholera. I believe that the merit of this discovery is due to Dr. Graves. This has been disputed; but I can testify that the superior efficacy of super-acetate of lead, in cases of cholera, was mentioned to me by Dr. Graves, long before I heard that the same medicine had been used in

* *Ueber die im Jahre* 1834, *in Hamburg geherrscht habende Asiatische cholera. Kurze Nachrichten and Auszüge in Hufeland and Osann's Journal, Octob,* 1834.

cholera by any other individual. In the English periodicals there has been a remarkable consent of testimonies approving the use of salt and water, as an emetic, in the onset of the disease.

During some years cases have occurred, not unfrequently, in this and other European countries, which have tended to shake the confidence of the public, and of some medical practitioners, in the powers of vaccination as a preservative against small-pox. Eruptive diseases, resembling variola in its first stages, have, at various times, spread through large districts, which attacked, often, those who had been vaccinated, and occasionally put on the genuine character of small-pox. They have been termed varioloid eruptions; and Hufeland declares that he observed the varioloid disease first at Königsberg, in July, 1809. It had been recognised before that period in England. According to Dr. Sacco it was not known in the South of France, viz. in the neighbourhood of Marseilles, till 1823. It appeared in Milan, where that distinguished physician and strenuous supporter of vaccination resides, in 1825.* In many places where these phenomena have been observed, they have produced a considerable apprehension that the efficacy of vaccination is only temporary; that its immunity from small-pox lasts only for an uncertain number of years; and that the process ought to be renewed from time to time, in order to prevent all danger of the occur-

* *Sacco's neueste Versuche zur Entdeckung der wahren Natur der Varioloiden und ihres Verhältnisses zur Variola vera, und der Schutzkraft der Vaccine.*

rence of variola. This notion had become so prevalent in France, that the Royal Academy of Medicine appointed, last year, a committee to inquire into the subject; and a report upon it was presented, by the Academy, to the French government. The report confirms, in the strongest manner, the advantages of vaccination, and removes all doubt as to its efficacy as a preventive of small-pox, though it admits that some rare cases have occurred of small-pox appearing, in a very mild form, after vaccination, as likewise after a previous attack of variola itself. The reporters conclude with the remark, that, in the numerous vaccinations which have been made, the great majority of cases confirm the efficacy of the original vaccination; and they wisely decline giving any recommendation of a proceeding, the advantages of which have not been, as yet, established by facts.

*Hufeland's Journal* contains a most interesting memoir, by Dr. Bürger, on this subject, with comments by the editor. In this is comprised an abstract of Dr. Sacco's experiments and observations, which are by far the most conclusive and satisfactory of any that I have met with, on many of the disputed questions relating to secondary small-pox, or the varioloid disease. They prove, for example, that the varioloid is not a new malady; nor is it, as some have thought, a hybrid disease, or one permanently modified; since it appears that if persons never vaccinated are inoculated with the matter from these imperfect pustules, they have the genuine small-pox, or small-pox quite unmodified, and such as inoculation from a perfectly developed variolous

pustule would produce. The experiments, likewise, appear to prove that time makes no difference in the security afforded against small-pox by vaccination, but that individuals vaccinated twenty, twenty-two, or twenty-four years ago, or soon after the first introduction of cow-pox, are just as secure from infection, and as incapable of taking the small-pox by inoculation, as those who have been recently operated upon by the antidote. Circumstances will not allow me to give the details of these experiments. I must refer those who wish to examine them, to the paper before mentioned in *Hufeland's* excellent and well known *Journal*; and to another paper in the same periodical work, which contains an account of the celebration of the Jennerian festival at Berlin, and a new review of the causes from which the supposed failures of vaccination may be thought to have arisen. The same questions have been the subject of a paper read lately, by Dr. Gregory, before the College of Physicians.*

There are many other subjects, related, more or less, to the present state of medical knowledge, on which I should, perhaps, attempt to make some remarks, if I had not already trespassed on the time and patience of the Association. I have

* What I have stated with reference to vaccination, is abstracted entirely from papers, containing various information on that subject, which have appeared during the last twelve months. For a fuller investigation of the different matters connected with it, and of some of the points to which I have adverted, it can scarcely be necessary to refer any member of the Association to Dr. Baron's learned researches into the history of variola and vaccination, contained in his life of the late Dr. Jenner.

touched upon those matters which, to myself, have appeared of the highest import, without being perfectly satisfied that I have always made the best selection. The address which was delivered at the last anniversary meeting, contained so general a survey, that I may well be excused for omitting a variety of particulars on which no very important information has been obtained during the last twelve months. I have made no attempt to survey, particularly, the medical bibliography of that period, but I may, perhaps, be allowed to advert to two extensive publications, one of which has just appeared, and the other is about to issue from the press, as both are to be conducted on methods hitherto scarcely, if at all, pursued. One of them is the *Cyclopædia of Anatomy and Physiology;* peculiar in this respect, that it is to be the joint production of English and French contributors. The able editors of this work have the merit of thus setting an example of breaking down national distinctions, which are injurious to science, and of hastening the time when men of enlarged minds shall be considered as belonging to no particular country, but as members of an universal republic.* The memoirs which have already appeared in this collection, are likely to obtain the approbation of scientific men in both countries. The other work alluded to, is the *New Medical and Scientific Review*, to be conducted by two of the editors of the *Cyclopædia of Practical Medicine*, and in which many of

* Since this paper was read, I have received notice of a publication, on a similar plan, relating to surgery, viz. a *Cyclopædia of Practical Surgery*, edited by Mr. Costello.

the contributors to that compilation are understood to be partakers. I believe that the expectations entertained by the profession, of the last mentioned work, are very high ; and the well known ability of the editors is a sufficient security that these hopes will be realised.

I hope to be allowed, in drawing towards a conclusion, to congratulate the Association, and its excellent founder, on its prosperous state, as well as on the increasing respectability of the medical body in general. Our profession has, at all times, deserved well of the public. It may be safely affirmed that there is no other class of men, without excepting even the clergy, who have bestowed their time and labour more extensively for the benefit of the community, under circumstances precluding the hope or prospect of reward ; and I believe that this was never so generally acknowledged as it is at present. It may be observed, to the honour of our profession, that the talents of its members are ever exerted on the side of humanity, and in the endeavour to lessen the sufferings of mankind. In this point of view, I cannot refrain from adverting to the disputes which have taken place, of late years, in France, between the most eminent of the legal and medical professions, in regard to the infliction of capital punishment on persons who had committed offences, such as arson and homicide, under the influence of insanity. It is impossible to doubt that individuals have undergone, in recent periods, public execution, both in Britain and France, in punishment for acts to which they had been impelled by mental disease. The controversies which have been

carried on in the latter country, between physicians who endeavoured to display the real nature of such cases, and legal prosecutors who enforced the vengeance of the law, seem to have terminated on the side of truth and humanity, and this result of philanthropical efforts has been manifest in the events of criminal prosecutions in France, as it will, doubtless, be for the future in this country. Of the important assistance which medical science can, likewise, occasionally give in aid of the proceedings of justice, we have a remarkable example in the results of the late trial in Bristol, of which an account has appeared in the last volume of our *Transactions*, drawn up by a writer whom I have already mentioned, and whose great talents and extensive acquirements render him a most valuable member of the Association, and of the medical profession.

On the increase of prosperity and public esteem our profession may safely reckon, while it increases in intelligence and efficiency. It can no longer be laid to our charge that, while science and learning are confined to a few, the great body of our caste is inadequately instructed. With a general growth and diffusion of knowledge we have reason to hope that a higher tone of moral feeling, a better culture of the highest powers of the human mind, is also prevalent; and, what is inseparable from this consideration, that a reproach often cast upon us of scepticism and irreligion, will no longer be imputed. It cannot be denied that there have been individuals who have abused the superiority of intellect bestowed upon them for far different ends, in endeavouring to loosen the bonds of religion and morality, by which

they, perhaps, felt themselves too straitly tied. But that time has passed. Such an individual, if such were now found within the ranks of our profession, would be looked upon as one marked by the token that all men should flee from him. "*Hic niger est, hunc tu Romane caveto.*" There never was a period when the imputation I refer to could have been truly thrown upon the medical community in general, or upon its most distinguished members. Still less can this be done in the present time, when we have the pleasure of reflecting, that several of the individuals selected to defend the groundworks of religion by the discoveries of modern science, and, I may add, certainly not the least able and meritorious of the number, are members of our profession.

PART II.

# DUTCH REPORT.

## ARTICLE II.

## AN ACCOUNT

OF THE

## AUTUMNAL FEVERS, EPIDEMIC SCARLATINA, AND SMALL-POX,

## WHICH PREVAILED AT AMSTERDAM,

DURING THE YEAR 1834.

BY C. I. NIEUWENHUYS, M.D.

*Honorary Corresponding Member for Holland.*

The intermittent fevers of this country, commonly known by the name of autumnal or bilious fevers, afflicted Amsterdam more than usual during the autumn of 1834. Here experience again proves that human life and health greatly depend upon the surrounding atmosphere. Indeed, medical history, and particularly that relating to the greatest part of Holland, teaches us that unusually warm summers are succeeded by much sickness. This fact was noted by myself and many others, more than twenty years ago, when, from our mutual observations and communications, we drew the con-

clusion,—that many fevers were generally the result of fine, warm, vernal, and autumnal seasons;—their cause being, probably, the *miasma*, which great heat draws from a marshy soil, and which, like a pestiferous vapour, corrodes the principle of life. The years 1826 and 1827, which were notorious for these fevers at Amsterdam, and still more so at Groningen, are even *now* too deeply imprinted on our memory, and, with many other similar epidemics, bear melancholy witness to the truth of the Dutch adage, "Hot summers bring forth rich churchyards." It will be unnecessary that I should enlarge on *miasma paludosum*, so much having already been written on the subject. Experience seems to teach us that this marshy miasm mixes with the atmosphere of certain localities, but does not extend far beyond its source. It appears plain, that Amsterdam, and such places only as are situated upon a similar marshy or fenny ground, (for instance North Holland) are infected by it, while other places, where the ground is more solid or sandy, remain free; so that, in these latter, the number of invalids has not been greater than usual, and, indeed, here and there, has been remarkably small. This will appear from the following statement of the births and deaths in the towns of North Holland, in 1834.

| | *Deaths.* | | *Births.* | | *Excess of Deaths over Births.* |
|---|---|---|---|---|---|
| Amsterdam ..... | 8440 | ... | 6806 | ... | 1634, or more than 1-5th |
| Hoorn ..... | 314 | ... | 267 | ... | 47, or more than $6\frac{1}{2}$ |
| Enkhuizen ..... | 182 | ... | 164 | ... | 18, or more than 1-10th |
| Alkmaar ..... | 386 | ... | 331 | ... | 55, or more than 1-7th |
| | | | | | *Excess of Births over Deaths.* |
| Rotterdam ..... | 2525 | ... | 2809 | ... | 284, or about 1-10th |
| Utrecht ..... | 1131 | ... | 1496 | ... | 365, or more than 1-4th |
| St. Gravenhague ... | 1343 | ... | 1931 | ... | 588, or more than 1-3rd |
| Dortrecht ..... | 591 | ... | 718 | ... | 127, or more that $5\frac{1}{2}$ |

A similar disproportion in the deaths and births was noted to have occurred in 1826 and 1827, in the above-named places, by Professor Physsen. From this statement we see, that in the four first-mentioned places, which are built upon marshy ground, the population in the year 1834 was *lessened;* while, on the contrary, during the same period, it was *increased* in the four latter, which are built on a more sandy soil. Yet we need not seek this difference only in places at a distance from Amsterdam, for it is the same in those that are near to it, even in towns and villages under the medical jurisprudence of this city. As an evidence of this, I offer the following comparison of the number of deaths in 1834, in a few localities, some situated upon higher or lower *fenland,* others on *sandy* ground, but all within about fourteen miles distance from this capital, (Amsterdam.)

| | *Population.* | | *Deaths.* | | *Births.* |
|---|---|---|---|---|---|
| Nieuven Amstel... | 4826 | ... | 259—1 in $18\frac{2}{3}$ | ... | 190—1 in $25\frac{1}{4}$ |
| Sloten ..... | 2347 | ... | 129—1 in 18 | ... | 93—1 in $25\frac{1}{4}$ |
| Water-grass-mear | 645 | ... | 40—1 in 16 | ... | 24—1 in 27 |
| These three are situated on a marshy or fenny soil. | | | | | |
| Hilversum ..... | 4538 | ... | 172—1 in $26\frac{1}{4}$ | ... | 213—1 in $21\frac{3}{4}$ |
| Huizen ..... | 2039 | ... | 55—1 in 37 | ... | 83—1 in $24\frac{1}{2}$ |
| Laaren ..... | 1829 | ... | 57—1 in 32 | ... | 71—1 in $25\frac{5}{8}$ |
| Naarden ..... | 2133 | ... | 88—1 in $24\frac{1}{2}$ | ... | 91—1 in 23 2-5ths |
| These four are situated on a sandy soil. | | | | | |

From the above data it will appear, that the average number of deaths, in the three first-named places, and which are situated on a *marshy* foundation, exceeded that of the births, in 1834, in the proportion of more than one-third three-eights of the whole number. While in the four last-named places which are erected on a *sandy* soil, the aver-

age number of births, during the same period, exceeded that of the deaths in the proportion of considerably more than one-fifth.

The calamity occasioned in Amsterdam, during the year 1834, by these autumnal fevers, was increased by the presence of scarlatina, which also prevailed there, epidemically, for several months. As far as this short plan permits, I will describe, in as few words as possible, both these diseases as they then appeared, and through the ravages of which so many of the inhabitants of this city perished; first throwing a glance over the state of the atmosphere during that year, and giving a concise account of the prevailing character of disease during each month.

The year 1834 was remarkable for its uncommonly mild winter, cool spring, and exceedingly warm summer almost without intermission, succeeded by a pleasant and moderately fruitful autumn; this was followed again by a mild winter. This state of weather, however it might promote the growth of plants, was highly unfavourable to the health of the inhabitants of Amsterdam.

*January.*—Temperature mild: now and then the thermometer (Fahrenheit's) fell to 32°, and during the day rose to 54°. The wind generally blew heavily from the south-west. On the night of the 28th it blew a violent storm.

The character of disease during this month was catarrhal and rheumatic, frequently complicated with nervous affections. Evacuation by bloodletting was not indicated. Intermittent fevers were frequent.

*February.*—This month was, in general, cooler

than the foregoing, and accompanied by night frosts. At the latter part of it, the thermometer rose to 52°. Much wind prevailed, mostly from the south-west, which increased to storm at the end of the month.

Diseases were much of the same nature as in January. The catarrhal, however, had more gastric complication: this was also apparent in the intermittents. In general, sickness was rather less than in the preceding month.

*March.*—At the beginning the mild weather continued, with west and south-west winds. Barometer high. The thermometer 56°, when at the highest. This month was in general warmer than the former.

Disease continued to possess a rheumatic or gastric character; seeming to complicate itself readily with intermittents, as well as with angina.

*April.*—Was generally cool, with much north wind and night frost. The average warmth of night was 45°, being colder than in March. Now and then there was a little snow. At the end of the month the thermometer rose, when at the highest, to 68°, and was 38°, when at the lowest.

The nature of the prevailing diseases remained the same, although less gastric and more rheumatic, especially angina and pleuritis. Intermittents continued to play their part.

*May.*—The weather was fine, but remained rather cool at the commencement, becoming warm afterwards, for the thermometer rose to 79° on the 13th and 15th. The prevailing winds were north-east, north-west, and south-west.

This mild weather exerted a favourable influence upon rheumatic and catarrhal complaints: intermittents decreased also.

*June.*—This month was remarkable for uncommon heat. The thermometer rose from 80° to 84: on the 21st, at two o'clock a. m. it was as high as 89°. The highest point during the month was 97°, the lowest 51°: the average heat of day and night scarcely differing eight degrees, except on a few occasions, when the difference between the morning and evening temperature was 12°. Wind mostly west and south-west.

Sickness diminished considerably during this month, especially intermittents; and instead of these we had more sore throats, probably forerunners of the scarlatina, which predominated during the following month, and had indeed already begun to make its appearance amongst the lower classes: twenty-two of whom died of this complaint this month, whereas only six had fallen a sacrifice to it during the preceding five months.

*July.*—The unusual heat continued. The thermometer was often at between 80° and 84°; the average during the day was 73°, and the highest point 95°. It rained now and then; but although thunder was heard, Amsterdam was not visited by tempest. About the 12th the heat was very unequal; early in the morning the thermometer was at 68°, and at five o'clock p. m. at 88°. The predominant winds, north and north-east.

Sickness in general visibly changed its character towards the end of the month, and became gastric.

The increasing intermittents took the same turn, and very soon became *subcontinuæ gastricæ,* if the fever were not opposed in a decided manner.

*August.*—During three-fourths of this month the weather continued very warm; the average height of the thermometer being, by day, full 71°; the greatest height was 84°. The wind in general south-west and north-east.

Diseases, particularly among the poor, increased perceptibly; as appeared, also, from the returns of both hospitals. The fevers were *subcontinuæ gastricæ,* and all of an intermittent nature. The gastric symptoms developed themselves to a high degree; vomiting or diarrhœa, and sometimes both, usually accompanied these fevers. If they were treated with evacuants and resolvents, they became continuous, with congestion of the head; and, in addition, were frequently attended by affection of the brain, so that many sunk under them in a comatose state.

*September.*— The weather, which had been changeable towards the end of August, became settled. In the afternoon the thermometer often stood at 65° or 66°, and early in the mornings, or nights, at from 59° to 60°: its greatest height being 81°, and when at the lowest, 48°. Wind mostly the same as in August.

The gastric character increased with the intermittents, generally attended with bilious complications, and changing them, as in the foregoing months, to continued fevers, with painful affection of the hypochondria and abdomen Sometimes the spleen was affected also, as was evinced by the

pain and swelling in that part. The scarlatina prevailed likewise, and was not unfrequently united with the intermittent.

*October.*—Although there were many fine days in the middle of this month, it was remarkable, notwithstanding, for thunder, lightning and heavy storms, which, particularly on the 17th, 18th, 23rd, and 24th, raged with almost inconceivable fury. Average height of the thermometer 54°: highest point 71°, lowest 40°. Prevailing winds, south-west and north-west.

The diseases bore a resemblance to those of the preceding month. Autumnal fevers reached their height. Among them many cases of *intermittentes larvatæ* and *malignæ* were observed; sometimes they were attended by pleuritic affections, and were accompanied by a peculiar eruption. The scarlatina also increased rapidly.

*November.*—Until the middle of the month the weather continued mild, and then it began to freeze, so that the canal was covered with a coat of thin ice on the 14th and 15th. Towards the end, it was again mild, and the storms usual at this season did not occur. Wind mostly east and south-west. The medium temperature 44°: the highest point of the thermometer 62°, the lowest 28°.

The same description of diseases continued, as in the last month; but the agues, into which many persons had relapsed, were more intermittent, but, nevertheless, still accompanied by gastric symptoms, sometimes by eruption, and also by diarrhœa. In some hospitals the complaint in the bowels assumed

the character of contagious dysentery. Moreover, the scarlatina, instead of decreasing, carried off many victims.

*December.*—Could hardly be called a winter month. If the thermometer by chance stood at the freezing point, it never descended below 32°. We had fine days with little rain. On the last day of the year, the thermometer stood at 52°. Wind, for the most part, north-west and south-west.

The diseases remained the same during half the month, and then underwent a marked change. The intermittents decreased; dropsy succeeded them, as well as scarlatina, and also spasmodic affections of the abdomen. Disorders of the chest became aggravated. Catarrhal affections, under the form of *pleuritis notha,* seemed to take the place of fevers.

*Observations upon the state of the Wind, at Amsterdam, during* 1834.—*The observations were made morning and evening.*

| | N. | N.W. | W. | Z.W. | Z. | Z.O. | O. | N.O. |
|---|---|---|---|---|---|---|---|---|
| January ..... | 4 | 4 | 13 | 25 | 9 | 5 | 2 | — |
| February ..... | 1 | 6 | 7 | 22 | 7 | 4 | 8 | 1 |
| March ..... | 11 | 7 | 12 | 17 | — | 2 | 7 | 6 |
| April..... | 19 | 5 | 1 | 7 | 2 | 1 | 9 | 16 |
| May ..... | 6 | 10 | 8 | 13 | 3 | 4 | 7 | 11 |
| June ..... | 10 | 3 | 15 | 15 | 4 | 5 | 5 | 3 |
| July ..... | 1 | 3 | 19 | 7 | 6 | 5 | 6 | 15 |
| August..... | 4 | 9 | 8 | 11 | 6 | 4 | 6 | 14 |
| September..... | 5 | — | 7 | 19 | 4 | 5 | 6 | 14 |
| October ..... | 6 | 16 | 7 | 22 | 1 | 6 | 3 | 1 |
| November ..... | 1 | 6 | 5 | 20 | 2 | 5 | 15 | 6 |
| December ..... | 5 | 19 | 7 | 16 | 2 | 1 | 5 | 7 |
| Total ..... | 73 | 88 | 109 | 194 | 46 | 47 | 79 | 94 |

*State of Barometer during* 1834, *at Amsterdam.*

| | Strepes. Highest state. | Strepes. Lowest state. | MEAN. Strepes. | Strepes. By day | Strepes. By night. |
|---|---|---|---|---|---|
| January | 772.0 | 742.0 | 757.12 | 756.87 | 757.37 |
| February | 778.6 | 756.6 | 768.16 | 768.13 | 768.20 |
| March | 779.9 | 750.3 | 767.28 | 767.37 | 767.19 |
| April | 775.6 | 746.8 | 765.95 | 765.71 | 766.19 |
| May | 775.2 | 744.0 | 761.10 | 760.75 | 761.45 |
| June | 769.0 | 748.6 | 759.19 | 759.13 | 759.24 |
| July | 765 0 | 751.0 | 751.92 | 758.01 | 757.84 |
| August | 762.5 | 751.7 | 756.51 | 756.56 | 756.45 |
| September | 772.5 | 748.5 | 761.95 | 761.83 | 762.07 |
| October | 777.0 | 736.0 | 760.47 | 760.32 | 760.63 |
| November | 774.7 | 753.5 | 761.86 | 761.86 | 761.84 |
| December | 779.4 | 744.5 | 769.59 | 769.40 | 769.77 |
| Throughout the whole year | 779.9 | 736.0 | 762.25 | | |

The day is reckoned from eight o'clock in the morning to eight in the evening. The night from eight in the evening to eight in the morning.

*State of Thermometer of Fahrenheit, during* 1834, *at Amsterdam.*

| | Highest state. | Lowest state. | MEAN. | By day. | By night. |
|---|---|---|---|---|---|
| January | 54° | 32° | 44°99 | 45°93 | 44°06 |
| February | 52° | 29° | 39°94 | 41°74 | 38°24 |
| March | 56° | 34° | 45°34 | 47°25 | 43°47 |
| April | 68° | 36° | 48°23 | 51°20 | 45°26 |
| May | 79° | 47° | 60°30 | 64°20 | 56°40 |
| June | *97° | 51° | 64°71 | 68°63 | 60°80 |
| July | *95° | 58° | 70°20 | 73°80 | 66°61 |
| August | 84° | 53° | 67°85 | 71°16 | 64°55 |
| September | 81° | 48° | 62°85 | 65°86 | 59°84 |
| October | 71° | 40° | 54°40 | 56°44 | 52°36 |
| November | 63° | 28° | 44°21 | 45°66 | 42°76 |
| December | 52° | 32° | 42°93 | 43°71 | 42°16 |
| Throughout the whole year | 97° | 28° | 53°83 | | |

The day and night are reckoned as before mentioned.

* This extraordinary high state was not observed by one person only, but was also preceded by gradual risings from hour to hour, so that with regard to it no well-grounded doubt can exist.

Having taken a view of the state of the atmosphere and the character of the diseases here, in 1834, I will add an extract from our bills of mortality, shewing how many fell victims to fever alone during that period. First observing, that although the list or aggregate amount of deaths may be considered as accurate, yet the subdivision lists may not be quite accurately classed; for this reason, these fevers, which are originally intermittents, are generally given in, under various names, according to the nature of the symptoms, or the height at which they may have arrived. For instance: first, agues, when the intermission or remission is to be distinctly observed;—second, *febres biliosæ*, as soon as gastric symptoms appear, in addition to the fever; whether these exist in the nature of the disease, or are brought to light by gastric treatment;—third, *febres catarrhales*, when the types of the fevers run one into the other, and the symptoms paired with them become dangerous. These appellatives, however, cannot be taken in the strictest sense, as they are not invariably dictated by the physicians. The deaths in Amsterdam, from fever, in 1834, are classed or noted thus:

| | *Intermittents.* | *Bilious.* | *Catarrhal.* | *Total.* |
|---|---|---|---|---|
| January | 29 | 1 | 12 | 42 |
| February | 12 | 0 | 14 | 26 |
| March | 33 | 1 | 13 | 47 |
| April | 25 | 4 | 19 | 48 |
| May | 30 | 2 | 15 | 47 |
| June | 30 | 3 | 15 | 48 |
| July | 23 | 3 | 5 | 31 |
| August | 37 | 12 | 20 | 69 |
| September | 74 | 49 | 18 | 141 |
| October | 125 | 66 | 25 | 216 |
| November | 145 | 37 | 29 | 211 |
| December | 103 | 5 | 16 | 124 |
| Total | 666 | 183 | 201 | 1050 |

From this statement it would appear, that fevers held their dominion here, either in the form of *intermittent* or *continued* fever, nearly throughout the year; increasing in August, and augmenting from month to month, attaining their extreme height in October and November, and decreasing again in December. As is usually the case in all epidemic and contagious diseases, these fevers take their rise amongst the lower classes, and then spread, more and more, over the population. From this table we perceive that the mortality in a population of 202,364 souls, occasioned by fevers alone, in 1834, was very remarkable, amounting to 1 out of every 192 inhabitants, or 1 in 8 of those who died. Further, if we take a *third* of the 556, who died of *dropsy,* and place them to the account of these fevers, they yield a total of 1235; but if to this number we also add *one-fourth* of the 1239, classed as dying under the head *exhaustion,* (and in each case we shall probably not be *beyond* the truth) we obtain a total of 1530 who died from these fevers or their results, or nearly 1 in every 133 of the whole population. Yet the mortality from these diseases was not so great as in 1826, when the same fevers raged through a vast population of Holland, commencing at Groningen. In that year, out of a population of 200,784 in Amsterdam, these fevers swept away 2390 individuals, being 1 in every 84.

In the commencement, these fevers were generally of an *intermitting* character; with some, however, they were *typhus remittens;* in many cases medical advice was not sought until they had become *sub-continued;* still an experienced eye could always

recognise the *remittent* character. The *prodromi* in these fevers were, chilliness, which, sometimes trifling, was ascribed to the weather, listlessness, sickness with inclination to vomit, pain in the abdomen, and hypochondria; lastly, came the fever with coldness. It frequently came on also without any remarkable warnings, and then, in general, with violence. In children it was sometimes accompanied by fits; in persons of mature age, with violent symptoms, often with delirium. The tongue, at first slimy and whitish, became covered with a brown coat in the course of the fever, and at its acmé *black*. It was attended with violent pain at the *scrobiculus cordis*, oppression, particularly while the cold fit lasted, and extreme thirst. The motions were sometimes costive, sometimes relaxed; often there was a red sediment in the urine. If the progress of the disease was favourable, it mostly ended in a general perspiration, followed by lassitude, and, shortly after, by seeming tranquillity. It has been remarked, that the urine then discharged, left a white milky sediment, and that should the perspiration be but trifling, without this change in the urine, the fever remained obstinate, and the prognosis became unfavourable. I must acknowledge that I have not myself remarked these symptoms, but have observed a great tendency to debility, under every form of the disease; and if the fever were not quickly suppressed, but from antiquated prejudices was treated, in consequence of the foul tongue and the gastric symptoms, by *anti-gastrica*, it was rendered worse, and often ended in death; even the *first* and *second* attacks were much in-

creased, and accompanied with lethargic and nervous symptoms, which were considered as indicative of congestion on the brain. Notwithstanding some bilious symptoms, such as vomiting of bile and a yellow tint of the eyes and skin, were observable, particularly as the epidemic increased, (about August) yet I seldom witnessed them in so high a degree, as to warrant the epithet *bilious fever*: in fact, they were the *result*, not the *cause*, of the disease. Neither was inflammatory affection of the liver discernible, not could I perceive that the spleen had been attacked. The fevers often declared themselves under different forms—sometimes as *febris larvata;* I saw it commencing occasionally in children with convulsions; in adults with apoplectic symptoms; and, in some instances, it came on suddenly with delirium; *twice* I saw it commence with vomiting of blood, and *once* with uterine hæmorrhage. If these dangerous symptoms were not relieved, or if medical assistance was not sought in proper time, the consequences were commonly fatal. I have seen a determination of blood to the head accompany this fever, evinced by redness of the face and a disposition to drowsiness, and by *delirium taciturnum*, but which symptoms vanished by aid of the specific used for the fever. Although I had no great reason to complain of *relapse*, yet examples of it were frequent, especially after an immoderate use of food, fatigue, and, above all, exposure to inclement or wet weather. Improper treatment or neglect was frequently followed by dropsy, affections of the abdominal viscera, and excessive exhaustion, which sent many to the grave.

This sketch will not allow me to enter upon the minute peculiarities of these fevers. That the disease appears to arise (as I have already stated) from the miasma which summer heat developes in a fenny or clayey soil, confining itself to such places, or not extending far from them, is an acknowledged truth. Now whether this miasma exercises its first injurious influence upon the capillary system, or the fine nervous texture, or in what other manner, I cannot now attempt to illustrate. But should I be gifted with future strength and health, I hope, and intend, to communicate some further ideas on this subject, to the thinking medical world.

Notwithstanding the great mortality this disease has occasioned here and elsewhere, I still consider myself warranted, from my own experience and observation, to affirm that, in its early stage, the danger is not very great, and may be warded off by timely assistance and proper medical treatment; but should this be neglected, and the first pathologic irregularity be followed up by many repetitions, a succession of results, ruinous to the organic system, occurs—carbonisation of the arterial blood; disorder or disorganisation of the liver or spleen; chronic inflammation, and even abscess, in the intestines; dropsy; scurvy; apoplexy and death, ensue: all which has been proved, beyond a doubt, by anatomical investigation. My mode of treatment was different from that of the greater part of my medical brethren, and was very simple. They mostly were of opinion that a foul, often a yellow tongue, vomiting, violent oppression about the præcordia,

constipation or diarrhœa, with pain in the bowels and hypochondriac region, were indications that the presumed *sordes* must be removed by *evacuent* and *resolvent* remedies, both of the emetic and purgative kind. And also, that if there were trifling head-ache, flushed countenance, or lethargic tendency, that it was necessary to suppress these symptoms, by local or general bleeding, before it was allowable to take the field with that powerful and excellent remedy, sulphat of quinine. Whilst, I repeat, many of my colleagues, misled by this mistaken view, exhausted their patients, and the fevers increased and produced a succession of injurious processes in the organisation, I at once administered that remedy, which subdues the intermittent, and with it the symptoms by which it was accompanied, or to which it had given rise. And to this, were they all, at last, obliged to fly, but then, not always with the same favourable results which I have had the good fortune to experience. In those patients who, in accordance with a rooted prejudice sometimes entertained here, were afraid of being released from the fever *too soon*, or where other circumstances seemed to render it preferable, I gave the *extr. aromaticum*, or the *extr. cardui benedicti* in an aromatic water, and under this treatment the fever sometimes mended, particularly in the spring, though very slowly. In those cases where the paroxysms did not quickly lessen, I did not delay adding a few grains of quinine. I also found a solution of quinine in mineral acid remarkably useful, and I used, for that purpose, according to circumstances, *elixir acidum Halleri*,

*acidum muriaticum,* or *elixir acidum aromaticum,* especially in bilious or scorbutic complications. If the fevers were already subcontinued or continued, and the nervous system had become affected to a degree to produce malignant nervous symptoms; I then prescribed the quinine with nervous remedies, as infusions of valerian, arnica, or serpentaria; or I gave it alternately with each. I seldom saw the disease reach this height or stage, except through neglect or unsuitable treatment. It is, perhaps, superfluous to add, that I prescribed a mild laxative where constipation rendered it necessary, particularly elect. lenit. with syr. sennæ; and I checked the weakening diarrhœa by combining opium with the before-named remedies.

I will now proceed to speak of the epidemic scarlatina, or *roodvonk,* as it is called here, which prevailed at Amsterdam, in 1834. According to the bills of mortality, the annual average number of deaths in that city, from scarlatina, for forty years, antecedent to 1834, was 72. A comparison of the aggregate number of the deaths proves that they greatly differ in individual years, and that this disease can become *epidemic* to a high degree; for there are years noted down, in which 200, and indeed (in 1778,) even 369 perished by it, whilst in other years only 24 or 26, or even as few as 18 died. The years in which *roodvonk* was epidemic here, are 1787, 1792, 1806, 1811, 1815, 1819, 1820. During the succeeding years there is no notice of *epidemic* scarlatina, and from 1821 to 1833, a period of 13 years, only 109 persons died of it, as the following list will show :—

| | | | |
|---|---|---|---|
| In 1821, | there died of scarlatina, | in Amsterdam, | 49 |
| 1822, | ..... | ..... | 12 |
| 1823, | ..... | ..... | 26 |
| 1824, | ..... | ..... | 8 |
| 1825, | ..... | ..... | 0 |
| 1826, | ..... | ..... | 5 |
| 1827, | ..... | ..... | 0 |
| 1828, | ..... | ..... | 0 |
| 1829, | ..... | ..... | 0 |
| 1830, | ..... | ..... | 0 |
| 1831, | ..... | ..... | 2 |
| 1832, | ..... | ..... | 3 |
| 1833, | ..... | ..... | 4 |
| | | Total ..... | 102 |

In the following year, 1834, scarlatina again appeared in an epidemic form, and was remarkable for its fatality, as 498 persons sunk under it; and if to these we add the, by no means trifling, number who died of diseases arising from it, as dropsy, decline, &c. it will appear to have been considerably more fatal, than the epidemic scarlatina of any previous year.

According to our registers, the disease first declared itself in an epidemic form, in the month of June, in 1834, and its victims were,—

| | | | |
|---|---|---|---|
| In January ..... | 1 | In August ..... | 50 |
| February ..... | 0 | September..... | 78 |
| March ..... | 0 | October ..... | 136 |
| April ..... | 1 | November ..... | 106 |
| May ..... | 4 | December ..... | 61 |
| June ..... | 22 | | |
| July ..... | 39 | Total ..... | 498 |

At the commencement, this epidemic, like the epidemic intermittent fever, was confined to the lower classes, afterwards it attacked the higher, (among whom many died, even during this year,

1835,) and thus spread itself over the whole city. Now although, in my opinion, its existence and extension were *epidemic,* I still consider that it *can* become *contagious,* since there are so many examples, in different families, of its having passed from one to another, so that sometimes not one escaped who had not previously had it. On the other hand, I saw many instances, in which only one or two, or even not a single one, of a numerous household, were attacked, although they all remained, as it were, in immediate contact with the malady. On two occasions I saw infants escape, whose mothers were suffering heavily under the disease, and who suckled them from time to time. Often have I seen a mother attacked by it, while all her children have remained free; whilst in other families the children who were kept apart caught it nevertheless. These cases leave the question of contagion as *undecided* as before, as they plead as strongly on the one side, as on the other. I found the preventive *belladonna* of as little use in this epidemic as in every other; at least, in some instances, I saw the fever take place where it had been used, whilst it did not occur in others. The usual symptoms attended the beginning of the disease. During the first months of its existence a subinflammatory complication was observable, but by the use of suitable remedies we succeeded tolerably well in subduing it. In addition to the usual sore throat, a *tracheitis* was sometimes remarked, which claimed much precaution, but after local bleeding it often happily subsided. In the latter months of 1834, a *nervous* form of the disease was undeniable, and

demanded other treatment. In this form the throat was in a marked state of inflammation, and the membranes of the sensorium appeared to be much affected. Many sank under these symptoms, some so early as the third day, several before the eruption had diffused itself; in these cases it was only visible on the hands and neck. Bleeding, cold applications, &c. did not prevent this inflammation from terminating apparently in effusion; the sufferers nearly all died of this affection of the brain. I saw many cases of scarlatina, particularly in October and November, coexistent with *intermittent* fever, and in which, during the period of eruption, the fever decidedly intermitted, or, in some instances, became *sub-continued.* Fortunately, however, such forms of the disease were not general. With the greater number the disease took its usual course, as *scarlatina simplex* or *scarlatina anginosa,* and under the former shape, a light diaphoretic treatment, or even simple dietetic management, was, generally, all that was required. Nevertheless, dropsy was often observed to take place after these slight attacks, without any visible cause, whilst the patients kept their chamber or even their bed. Such was the case particularly among the poor; and in our hospitals, also, many sunk under this consecutive disease. Ulceration of the parotids, succeeded by deafness, was noted by some physicians among the after diseases.

Scarlatina also sometimes appeared as *angina maligna,* and terminated fatally. All that I need now say of my mode of treatment shall be in general terms. I treated scarlatina, as I had done

ague, according to circumstances, and the character of the fever and its attendant symptons. When scarlatina was combined with intermittent fever, I treated it with quinine, which I also found to act beneficially on the sore throat and exanthema, especially when dissolved in muriatic acid, or the acid elixir of Haller. My general practice was diaphoretic, antiphlogistic, stimulant, and so forth, according to the indications of the individual case. In the *after-sicknesses*, or diseases which resulted from the scarlatina, and which, in my opinion, were attended with the most danger, my treatment was modified according to their nature, the circumstances attending them, and the constitution of the patient. For instance, hydropic results, which were often combined with *scorbutus* evinced by bloody urine, with a secondary eruption upon the skin, consisting of red ecchymose blotches and spots, accompanied by remittent fever, and sometimes by lethargic symptoms; these I successfully treated by quinine with a few drops of muriatic acid in an aromatic water, or in a nervous infusion, the addition of acetic ether to which, I frequently found highly useful. The above results were followed by a second peeling off of the *epidermis*. As this fell off in thick scabs, it gave rise to stiffness and pain, which were allayed by using cocoa butter externally. The attenuation of the patients, in these cases, was so great, that a decline was to be apprehended, yet this was averted by the use of appropriate remedies. It appears of importance to observe that I remarked in some children a *mictus cruentus* without anasarca, and which seldom de-

posited a sanguineous mucus, but was in general so intimately combined, as to lead to the supposition, that it had been thus secreted by the kidneys. *Ratania* alone did not remove the tendency to this secretion, but a solution of quinine, in a mineral acid, particularly *acidum phosphoricum* had the best effect.

It has been observed that some patients expired suddenly and unexpectedly during this epidemic, whilst, to the great astonishment of their relations, the physicians had sometimes held out but a few hours before, the most flattering hopes of recovery. In spite of every effort I was unable to discover the cause of this, until a similar misfortune occurred in my own practice, and which, I thought, accounted at least for some of these sudden deaths. Mr. C. a man 26 years of age and only six weeks married, had previously been tolerably healthy, but had complained of a pressure and contraction in the throat, resembling *globus hystericus*, and of a nervously sensitive constitution, was seized with sore throat on Wednesday evening, whilst supping with a friend. It continued the following day, on the evening of which I was called in, and found him in a high fever, which had come on with coldness. He was red all over. I prescribed a mixture *ex aq. sambuci. vino stabiato, acet. ammoniæ liquid., et extr. cardui bened.* and a gargle of a decoction of figs. The next day, Friday, the fever was diminished, with continued eruption and extreme pain in the throat, which was red and swelled internally. To counteract this, I added a gargle *ex aq. rosarum et borace cum melle rosarum* to

the foregoing medicines. In the evening the fever again exacerbated, coming on with coldness, increased sore throat, and continued *exanthema*, and lasting nearly the whole of the night. On the Saturday it went off as before, with perspiration. Two spoonfuls of a solution of quinine with *acidum muriaticum in aq meliss.* was administered every two hours, and he seemed much better during the whole of the day; the *angina* was also so much better that he could be understood when he spoke. The same evening there was a slight exacerbation of fever, with increased sore throat and less redness. By continuing the remedies he became free from fever and sore throat on Sunday, and could swallow very well, but, according to his own description, was sensible of a strange contraction in the mouth, which hindered his speech. He said he felt otherwise well. However, the pulse was very quick and scarcely to be felt, which I attributed to extreme weakness after so violent an attack. As far as could be seen in the throat, it was covered with a cheesy matter, and the swelling had disappeared. He felt so much better, seemed to gain a little appetite, and, indeed, appeared so decidedly mending, that I shared the joy of the happy couple, little suspecting the snake in the grass. I continued the medicines as well as the gargle, although in a less quantity, but at my second visit on the afternoon of that day, how mournfully did I find myself deceived! He was perfectly sensible, but could not speak, only uttering a hoarse incomprehensible sound, yet seemed contented, and inclined to say much. The pulse was no longer to be felt; the throat was blackish

without swelling, and left no doubt of gangrene. At nine o'clock that evening he was no more.

Having been so fortunate in my treatment of the disease hitherto, this loss deeply affected me; and rendered me so watchful of such incidents that I happily succeeded on a subsequent similar occasion. Being called to Mr. F. whose child had been under my care a few weeks previous for scarlatina, I found his wife in bed complaining of a violent sore throat, with fever without eruption, which rather increased than diminished the following day, notwithstanding the use of diaphoretics, and a gargle, consisting of a solution of borax in rose water. She remained a day or two in this situation, with continued remitting fever, when I received a message one evening that the throat was better all at once, as far as regarded pain, but that the patient could neither swallow nor gargle, and could only speak indistinctly, besides being extremely weak. Remembering the former case, I hastened to her, and found her as had been described; her pulse was quick and low, she had much thirst, but otherwise was cheerful. The right tonsil was covered with a blackish matter, and the uvula was not visible. The surgeon I had called to a consultation, (Mr. Opden Enden) agreed with me, that gangrene existed. I requested him to syringe it with a solution of creosote in rose water, (8 drops of the former to 6 oz. of the latter,) and to continue its use during the night; in addition to this, a spoonful of *infusum arnicæ cum æthere acetico et camphorâ* was administered every hour. At my morning visit she was able to swallow and gargle. Upon inspection

the tonsil was still discoloured, although no longer gangrenous, but the uvula was not yet discoverable. The creosote water was now made stronger and used as a gargle; and the *infusum flor. arnicæ* continued with such good effect, that all went on favourably the next day. Our patient was able to swallow and speak; the last, however, very imperfectly for some time after. The uvula, although very small, was visible again, and seemed to have been concealed in the *velum pendulum*. The tonsil was smaller also, but not entirely destroyed.

I have often seen affections of the brain also, in epidemic scarlatina, and attended with fatal consequences, but not in the year in question. Neither did they exist to such a degree as to excite a suspicion of effusion or inflammation. They were only lethargic attacks, such as accompany fevers, and were of an intermitting or remitting nature. As regards temperature, my treatment was moderate. I avoided a confined air, or overheating the patients by too much covering, quite as much as a thorough draught of air, considering both injurious; and I sought to have my patients placed as much as possible in large apartments, where, although the weather was cold, I allowed very little fire, and had the doors kept open. All heating food was avoided, and nourishment regulated according to the constitution of the sufferer, or the nature of the disease and its degree of violence. Those patients who, contrary to my advice, had been kept too warm, or had remained in small apartments, (sometimes for want of larger ones) were almost all subjected to *anasarca* and the before-mentioned scorbutic affec-

tions. I can best prove the injury done by such immoderate overheating, by a couple of examples. Two children who had been kept excessively warm, and shut up in an inhabited room, had *anasarca,* with the eruption alluded to; the one, a girl of 8 years, was ultimately saved by being kept cooler, and the use of appropriate remedies. The other, a boy 4 years of age, a child of Mr. K. (whose influence, joined to my opinion, could not overcome the prejudices of its West Indian mother and faithful old servant,) was so stifled in a small room, with a fire and under blankets, whilst the prescribed remedies were neglected, that overwhelmed with *anasarca,* and a measly eruption united with *mictus cruentus,* it sank under convulsions. Before I close the present subject, I will mention a case deviating from the general course taken by the scarlatina, and yielding a quite contrary succession of symptoms. Mr. N.'s servant, a healthy young man, 30 years of age, of regular habits, had for some time complained of swelled hands and feet, which after some days extended to the arms and thighs, with heaviness of the limbs, and listlessness in the performance of his usual occupations. Being sent for, I found his pulse slower than usual, the bowels confined, and tongue whitish. The swelling was dropsy, not only in the *parenchyma* of the *cutis,* but of the muscles also. He could give no other reason for this, than that being warm he had exposed himself to a current of air. A mixture was given, composed of *extractum card. benedicti, cum diaphoreticis et diureticis, pro re natâ, cum tart. potassæ et tart. boraxatâ,* which was not only fruitless, but the sufferer

became worse whilst taking it. He had fever also, and a sensation of illness that compelled him to keep his bed. In spite of such remedies as act upon the skin, the urinary organs, and bowels, this situation lasted several days, but with a remitting, instead of uninterrupted fever, *secretio urinæ* continued very trifling. I then ordered a solution of *sal essentiale cort. peruv. cum elix. acid-Halleri* in *aq. menth. pip.* by taking which, he was released from fever and dropsy (a copious secretion of urine occurring) in a few days. Being convalescent, he began by committing a trifling error with regard to the recommended diet—he ate too much, and both fever and dropsy in the limbs returned; the abdomen had its share also. A more liberal use of the former medicines ameliorated this relapse, so that we vainly imagined we should soon see the sufferer quite recovered. All at once, without any apparent cause (for he kept his room and bed) sore throat followed by scarlatina made its appearance, and the fever became intermittent. The medicines, which had been given with less punctuality and in smaller doses, were again increased and strengthened, until by a persevering treatment, the fever and scarlatina lessened, the desquamation of the *epidermis* was accomplished, and the patient gradually cured.

In this year, also, Amsterdam lost 134 persons with the small-pox, some of whom had been vaccinated formerly with apparently good effect. The disease continued therefore to prevail here, although the mortality it occasioned was trifling in comparison to the population, especially if we compare this year with earlier years, in which the small-pox was

not less epidemic. In the 170th page of my Topography, I have drawn a comparison between the deaths by small-pox before the vaccine was introduced,—during the time of its introduction,—and after it was introduced. By dividing 30 years into three eras, we see that during the first era, before the vaccine was introduced, (1785, 1794,) 6304 died of small-pox; in the second era, during its introduction, (1795, 1804,) 5446; in the third era, after its introduction, (1805, 1814,) 2533.

It appears from this table that as the cow-pox inoculation increased, fewer died of small-pox; for instance, during the last ten years, in which vaccination was very general, 3771 fewer persons fell a sacrifice to small-pox than in the first, when the art was unknown in this country; which places the usefulnes of this salutary preventive beyond a doubt, and does away with the objections of every unprejudiced mind. This was my argument eighteen years ago, and it is now proved to be correct. Looking over the deaths in a later era of 10 years, that from 1811 to 1820, they only amounted to 1498. Thus every one, who is unprejudiced, must acknowledge that the number of deaths by the natural small-pox in this city, is observably diminished by the vaccine. Nevertheless, it is not to be denied, that many persons have been attacked by small-pox after having been vaccinated some years previous. Yet, of all those I have vaccinated, (and I commenced doing so in 1803, keeping a correct register of each case, with an account of attending circumstances, during 32 years,) there are but two, as far as I know, who have had the so-named modified pock after vaccina-

tion. I have, however, treated many for the small-pox who had been vaccinated fifteen or twenty years before, and in some cases the well formed scar proved it, but I have seldom seen this natural pock, *variocellæ*, malignant, nor have I ever lost a patient with it. In 1834, ten persons were reported as having died of it after the vaccine, but upon strict scrutiny it is proved that out of that number the vaccination of four only could be trusted to. It astonishes me that this does not occur oftener here, and as long ago as the year 1817, I said,* speaking of the cow-pox, "I fear, indeed, that should we be visited, epidemically, by the small-pox, many vaccinated subjects will be attacked by it; not because the cow-pox is insufficient as a preventive, but because, especially in the first years after the discovery, the real vaccine will often be mistaken &c." and this fear is not lessened now at all events, for the city authorities (notwithstanding that skilful medical men united in rendering themselves useful in an institution for cow-pox inoculation, by vaccinating the children of the poor gratis) nominated the so-called city vaccinators, who, for a trifling remuneration, performed this office for the needy gratis. This gave rise to the greatest want of exactitude for some years, and is probably the reason why, at the proposition of the faculty, the city vaccinators were displaced. I consider that if the small-pox exists so frequently here and elsewhere after vaccination, it arises, in a great measure, from its not having been performed with the necessary precaution; every subject was vaccinated, whether sickly or healthy, for

* Nieuwenhuy's Topography, p. 169.

the sake of vaccinating a great number; the promise of a gold medal, to such physicians or surgeons as had vaccinated a certain number, in a certain district, gratis, being the incitement: but this is now altered also. If we can agree with Eichorn,* that very probably the small-pox has its seat in the *systema lymphaticum*; and that the cow-pox must, therefore, act upon *that* system, to enable it to destroy in it the susceptibility for the former disease; and, moreover, when we recollect that most chronic diseases in children take their rise in this *systema*, as appears from the many glandular disorders and eruptions to which such tender constitutions are liable from improper food, &c. then it will be plain to every one, that such vaccinations may not have the desired effect. The more so as the susceptibility for the natural small-pox is decreased, in a great degree, after these vaccinations, and therefore it is that they give birth to a modified disease, which has been stamped with the name of *variocellæ* or *varioloides*, but which, in my opinion, is nothing but the natural small-pox in a milder degree. This opinion is strengthened by observing that these *variocellæ* can turn to a high degree of small-pox, when the subject has not been vaccinated. Hence the *contagium variolosum* being sown upon a less fruitful soil brings forth the *variocellæ*, which still remains the same disease, although modified according to the constitution of the subject.

Another reason why the vaccine is not, or only partially, a preservative against the small-pox, is,

* *Handbŭch über die behanlŭng ŭnd verhältŭng der contagiöæ fieberhaften exanthemen.*

that it frequently happens that the vaccinated are not superintended with sufficient care. The pock is often rubbed off ere it can have worked through the whole organization, and instead of penetrating every *stadium,* it ulcers imperfectly, and is then more like a gathering, which sometimes continues many weeks, than a regular vaccination; this is caused also by the overhaste to vaccinate a great number without being able to superintend them attentively.

A third reason may, I believe, be found in the inefficacy of the vaccine matter, whether it is taken from scrofulous children, or such as are subject to eruptions on the skin, perhaps from weakly subjects, who, as it were, have not vitality enough to perfect such matter; or it may depend on the nature of the cow-pock matter itself, which having been transplanted from one to another, is too much enfeebled to bring forth that reaction in the lymphatic system, which is necessary for entirely doing away with the susceptibility for the natural small-pox. Many writers, in different countries, appear to have confirmed this belief, by experience as well as by analogy; on the other hand, others have disputed it with no less plausibility; among the rest Dr. C. H. Smeets of the Hague endeavoured a short time since, to disprove it in a beautiful prize Treatise, which won the gold medal. I shall now only add my own observation, that out of numerous cases of small-pox after vaccination which have been under my treatment, I never met with a single instance in any one who had been vaccinated within less than 15 or 20 years previous, I leave to others

to judge from their own remarks, whether this or their opinion accords with general experience.

The measles, which sometimes rages here more violently than the scarlatina, and comparatively sweeps away more victims than in Berlin or Vienna, (see Topography, 2nd vol. p. 156) was very trifling this year, not more than 20 persons dying of it; whilst in former years several hundreds, and in 1783 more than 1000 souls, were carried off by it.

The Asiatic cholera was also observed here and there sporadically, but only 19 instances of it could be distinctly traced, of which two were doubtful, and three died.

PART III.

# MEDICAL TOPOGRAPHY.

## ARTICLE III.

## ON THE MEDICAL TOPOGRAPHY, STATISTICS, &c. OF MALVERN, AND OF THE DISTRICT AT THE BASE OF THE MALVERN HILLS.

BY WILLIAM ADDISON, ESQ. F.L.S.

*Surgeon to H. R. H. the Duchess of Kent.*

NATURAL HISTORY OF THE DISTRICT.—1. Geographical position of the Hills.—2. Geology.—3. Physiognomy of the District.—4. Waters.

CLIMATE.—1. Temperature.—2. Atmospheric Pressure.—3. Vapour.—4. Wind.—5. Rain.

STATISTICS.—1. Population.—2. Baptisms, Marriages, and Deaths.—3. Law of Mortality.—4. Diseases.

### INTRODUCTORY.

THE principal object of Medical Topography should be to discover the causes of diseases, by investigating all the circumstances of a locality in any manner affecting the physical or social condition of the inhabitants, with a view to point out those measures calculated to increase their comforts, remove their diseases, and prolong life.

It is essentially requisite that every inquiry of this nature should embrace, first—the natural history and climate of the district to which it relates, so far, at least, as to comprehend all those influences producing any sensible effect upon the human frame; and, secondly, the statistical results, by which the effects of physical circumstances upon the health, and the moral and social conditions of the population, may be estimated.

### NATURAL HISTORY OF THE DISTRICT.

1. *Geographical Position of the Hills.*—The Malvern hills are situated upon the border of the counties of Worcester and Hereford; they form a narrow undulating chain, in length about nine miles. The top of the ridge rises in many places into pointed conical peaks, giving it a picturesque and mountainous outline. The northern extremity of the chain is about seven and half miles south-west of the city of Worcester, and the southern about nine miles north or north-west of Gloucester, the line running pretty nearly north and south. The height of the several peaks varies from 8 or 900 to 1450 feet, the boldest and highest being situated above the village of Great Malvern.

2. *Geology.*—The Malvern hills belong to the sienitic trap formation, and are composed of hard irregular masses of sienite, quartz, felspar, mica, horneblende, greenstone, &c. either alone or disseminated with each other in very variable proportions. At the northern extremity of the chain are veins of crystallized sulphate of barytes; and near the Herefordshire Beacon, veins of carbonate of

lime reach nearly to the summit of the hill, and this substance is here largely mingled with the other constituents of the rock.

On the eastern flank of the Malvern hills rests the lower new red sandstone, with here and there a conglomerated rock containing quartz, felspar, grey wacke, &c. At two or three places these conglomerates have been observed in inclined positions at some height above the plain, and at one point at Great Malvern, they adhere to the steep flank of the sienite, dipping east at a considerable angle. This fact Mr. Murchison observes, "leads to an inference that this chain of trappean hills may have undergone a movement of elevation, subsequent to the deposit of the new red sandstone."

On the west flank is an extensive series of beds of greywacke limestone, and conglomerates, forming a broken chain of high rounded, and more or less conical hills; the strata, which contain a great variety of fossil remains, dip at almost every angle, and in every direction, the conglomerates contain minute masses of quartz, felspar, hornblende, &c. Among these limestone hills are beds of gravel and pebbles, and in many places, stiff marl and clay, mingled with quantities of a friable micaceous earth of various degrees of hardness, generally breaking easily under the fingers, and falling down in silvery scales.

3. *Physiognomy of the District around.*—The whole surface of the primitive range, is covered with soft, short, and mossy herbage, affording pasturage to large flocks of sheep. The rocks, in many places, project from beneath the turf with a bold and rugged

front, which, with the deep ravines intersecting them, give a romantic and pleasing character to the slopes, much heightened in summer and autumn by the large rich purple flowers of the foxglove, and the deep yellow of the furze.

From the summit of the Worcestershire Beacon, (the highest point of the range, and commanding a most extensive panoramic view over several counties,) the eye wanders towards the east over an immense and apparently perfectly level country, studded with villages and towns, and threaded by the windings of the Severn. In the west are seen hills of various forms and sizes, rising one behind the other for several miles, covered with wood, and intersected by deep vallies. On the eastern side the descent is at first very precipitous, and then the slope is gradual into the plain just noticed; on the west the primitive hills mingle themselves with the secondary, at a greater elevation. In the former direction the horizon is bounded by the low lias escarpments of east Worcestershire and Warwickshire, and the öolite of Bredon, Cheltenham, and Gloucester; in the latter by the black mountains, and other hills in South Wales and Shropshire.

Along the base of the Malvern hills, on either side, is a purely agricultural country. On the east lie the parishes of Great and Little Malvern, Hanley Castle, Welland, Leigh, Madresfield, and the chapelry of Newland, forming the *eastern division of the district* under consideration. The soil here, near the hills, is of a dry gravelly nature, resulting from the disintegration of the materials which compose the constituent rock; it contains, in large

quantities, minute particles of quartz, mica, &c. with angular masses of hornblende, quartz, and sienite; below this (*i. e.* further from the hill) the surface is chiefly a red sandy marl, interspersed with clay, sand, and pebbles, furnishing abundantly the usual products of agricultural labour, large crops of apples and pears, and some hops. On the western side is the market town of Ledbury, and the parishes of Colwall, Coddington, Mathon, and Cradley, forming the *western division of the district.* Here the surface principally consists of a stiff light-coloured clay, with extensive patches of a more disintegrated and genial soil, copiously interspersed with various-coloured pebbles, overlaying beds of sand and gravel. In many parts on this side there is scarcely sufficient soil to cover the bare rock, and vegetation often suffers from a deficiency of moisture, though the valleys lying between the various woody eminences are many of them rich and fertile; there are here also numerous apple and pear orchards, and a larger proportion of hop plantations.

The level surface of the vale on the east side of the Malvern hills, is peculiarly favourable for freedom of communication. The roads are numerous, and generally good. The rivers, also, afford important facilities for the transport of articles of luxury or commerce. The Severn, as will be seen by referring to the map, touches the boundary of the parish of Great Malvern, its course being nearly parallel with the line of the hills. The Teme constitutes a considerable part of the limit to the parish of Leigh. On the other hand, in the country around

the western base (broken into many steep and wooded hills) the roads are generally very bad, indeed, with few exceptions, quite impassable for a carriage in winter; *the road* and *the water course* often applying to the same pass. The numerous brooks and streams speedily fill after a few hours rain; are very rapid in their course, tearing up the soil, and accumulating large fragments of loose stones.

These physical circumstances, combined with the greater intercourse which the peasantry of the eastern side have with visitors from the Metropolis and the neighbouring towns, resorting to Malvern and Malvern Wells during the season, contribute to explain the difference observable in the manners (and, as will be hereafter seen) in the statistical results of the population of the parishes in the eastern, as compared with those in the western, division.

4. *Waters.*—All the springs in the western division retain considerable quantities of earthy salts in solution, particularly carbonate of lime, derived from the extensive lime stone strata whence they arise; indeed, many of the little streams in this division possess a petrifying quality, depositing upon sticks, straws, or moss, lying in them, a tolerably thick covering of the carbonate, which becomes of a stony hardness by exposure to the air.

In the eastern division, almost all the pump waters I have examined are hard; containing, besides lime and minute quantities of other matters, a very notable proportion of magnesia. It is only the springs issuing from the primitive rock, of which there are several on the eastern slope, that possess that character of purity, that freedom from earthy

contamination, so peculiarly characterising the water of St. Ann's and the Holy Well.

*Malvern Waters.*—The waters of St. Ann's Well, at Great Malvern, and of the Holy Well, in the parish of Hanley Castle, have long been celebrated for their medical virtues. Mention is made of these springs in *Bannister's Breviary of the Eyes*, printed 1622. And in the *Addenda* to *Camden's Britannia* is the following: "Near the division (betwixt Worcestershire and Herefordshire) is a spring, that has long been famed for the virtue of healing eyes, and other parts of the head, therefore called Eye Well. And besides this, is another spring called Holy Well, hitherto much resorted to for curing all scorbutic humours, and external ulcers, by bathing and drinking of the Waters." In 1756, Dr. J. Wall, of Worcester, wrote an account of the latter spring, containing several cases in which it had been highly beneficial. A third edition of this treatise was published in 1763. Dr. Wilson Philip afterwards published an analysis of the waters of each of these wells; and, subsequently, Dr. M. Wall. The publication of the latter contains seventy-six cases, some of them, certainly, very extraordinary ones, in which the internal and external use of the Malvern waters was eminently beneficial. "The cases I shall mention," he observes, "are such only as *I have attended myself*, and, therefore, I will be answerable for their veracity. The Holy Well water appears, from every day's experience, to be possessed of all the virtues attributed to it, and to be serviceable in scrofulous cases, old ulcers and fistulas, obstructed glands, disorders of the eyes

and eyelids, nephritic complaints, cutaneous disorders, &c. &c. The cures performed by this water, in scrofulous cases, are very numerous and surprising."

Considerable difference of opinion has existed upon the quantity and nature of the contents of the Malvern waters. Both Dr. J. and Dr. M. Wall agree that they are but very slightly impregnated with earthy or saline matter. Dr. Wilson Philip, on the other hand, contended that they held the carbonates of soda, lime, magnesia, and iron, with other saline compounds, in considerable quantity. The results of many carefully performed experiments, have convinced me that neither the Holy Well nor St. Ann's Well water holds more than three or four grains of saline or earthy matter in the gallon: they may therefore, perhaps, be pronounced the purest waters in the kingdom. The three grains which I found as the residue, after several careful and slow evaporations, appeared to consist of muriate of magnesia, muriate of soda, and the sulphates of magnesia and lime.* The quantity of water issuing from the springs is, in some degree, influenced by the season. After great quantities of rain, they flow faster than in the dry season; and the quantity of solid matter found in an equal measure is, no doubt, influenced thereby.

With respect to their medicinal virtues, I can, in a very decided manner, add my testimony to the benefits derived from the use of the Malvern waters, both externally and internally, in scrofulous glandular swellings, and in chronic scrofulous ulcerations.

* Vide Appendix, No. 3.

It has frequently happened to me to see young persons, of either sex, with five, six, or more, old fistulous sores about the neck and angle of the jaw, entirely cured in three or four months, by allowing the water to trickle (or rather fall down) from the spout upon them. At first this is, of course, productive of considerable pain from the coldness of the water, and can be borne only for a few minutes; but I have seen persons, after a little time, able to keep *the neck* under the spout for fifteen or twenty minutes twice a day. Similar ulcerations about the joints, heal by the same treatment. Even in cases where the ulcers and fistulous openings are kept up by disease of the bones, the air, water, and situation of Malvern, often effect a great and marked improvement, and sometimes a perfect cure.

In many cases of disease and irritation in the bladder, attended with frequent desire to make water, and pain after its evacuation, also in disorders of the urinary organs, accompanied with the lithic acid, or phosphatic deposit in the urine, I have seen a very liberal internal use of the water decidedly beneficial; and elderly persons, afflicted with organic changes in these organs, have often acknowledged to me that they live in greater comfort, and are freer from irritation or pain, at Malvern than elsewhere.

The common people extol the use of the waters in inflammation of the eyes; and, in some of the simpler cases, they are often very serviceable as a cooling external application. At Malvern Wells there is a spring called the Eye Well.

In various cutaneous affections they are often

used; and in the publication of Dr. Martin Wall, are several cases in which their constant application to the parts affected was highly beneficial. I have not, myself, seen such very marked and decided benefit from them, in all the various forms of cutaneous affection detailed in the publication of that physician; but this, perhaps, has arisen from a difference in the mode of their application, for it is related, "Those who bathe for these complaints, usually go into the water with their linen on, and dress with it wet upon them:" a mode of procedure I have not ventured to recommend. Nevertheless, I have witnessed many obstinate cases of lepra and psoriasis much ameliorated, and some entirely give way to the liberal external and internal use of the water; and I have also observed other cases, where it has failed of doing good. Upon the whole, I should imagine, that there are many delicate constitutions to which the constant and habitual use of hard water (and most spring waters are hard, some very much so indeed) proves positively injurious; and a trifling degree of irritation thus originated in a weak habit, conjoined, perhaps, with not a very pure air, may certainly be sufficient to excite some positive, perhaps scrofulous, or other, complaint. In such cases, the really *medicinal* effects derived from a residence at Malvern, may be easily understood.

*Chalybeate Water.*—At Great Malvern there is a chalybeate spring, which so far partakes of the character of the pure spring waters, that it contains but little earthy impurity. The iron contained in it is a proto-carbonate, and the water acts as a mild

and rather pleasant tonic. But from the rapidity with which the iron on exposure becomes converted into the peroxide, it requires to be drank upon the spot, or in a very short period after it has been taken from the spring. I need not remark, that in all the earlier stages of tuberculous cachexia, of scrofula, and chlorosis, and in the various forms of functional debility without fever, the results of acute disease, this mild chalybeate, in conjunction with pure air, and the constant use of a pure water, has been very frequently a powerful agent in the restoration of health. A great many persons have received benefit from it, even when unable to bear a stronger water of the same kind—as the Tunbridge wells, and others.

### CLIMATE.

The village of Great Malvern, which has long been celebrated for the beauty of its scenery, the healthiness of its situation, and the purity of its air and water, is situated in a kind of recess formed between two of the highest points in the chain of hills. The Worcestershire Beacon, the most elevated, is above, and to the south-west, of the village; the north hill, another high and prominent point, is on the north-west. The houses are, for the most part, detached from each other, and interspersed with shrubs and trees, giving them a rural and picturesque character, in keeping with the natural beauties around. The views are every where extremely beautiful, and the hills above are intersected in every direction by walks or pathways of easy ascent, much frequented, during the summer, by pedestrians, and invalids on donkeys, enjoying the

pure invigorating breezes there, far removed from those injurious atmospheric depositions too often met with in the vales below.

The hamlet of Malvern Wells, in the parish of Hanley Castle, is about two miles from Great Malvern ; its situation is not quite so elevated, nor are the contiguous hills quite so high, but its local peculiarities are of the same character as those of Great Malvern : the water is equally, even if not more pure, and claims a longer period of celebrity. There are many delightful walks on the hills in the vicinity, and its quiet retirement, even in the height of the season, is preferred by many persons to the more bustling scenes at this time in Great Malvern.

1. *Temperature of Great Malvern.*—The details from which the following tables are derived, consist of two daily observations—one at nine a. m. the other at eleven p. m. from June, 1834, to July, 1835. At nine a. m. the minimum of the preceding night is taken, and at eleven p. m. the maximum of the day—both these extremes being marked by a self-registering thermometer.* The results are accom-

* The daily entries have been made thus:

April 5th, 1835.

| *Barom.* | *Therm.* | *Hygr.* | *Time.* | *Wind.* | *Weather.* |
|---|---|---|---|---|---|
| 29.563 | | | | | |
| 53 | 50 | 50 | 9 a. m. | South. | Cloudy, dark, damp. |
| — | 47 | — | — | — | Night cloudy. |
| | 50 maxm. | | — | — | Cloudy, mist on the hill. |
| 26.680 | | | | | |
| 53 | 48.5 | — | 11 p. m. | Calm. | Cloudy. |

The number placed below the barometrical height denotes the temperature of the mercurial column, as shewn by a thermometer which hangs close to it. All the thermometers and the hygrometer (Daniell's) are of Newman's manufacture, very accurate, and agreeing remarkably with each other.

panied, (for the purposes of comparison) with those of London, as stated in the meteorological tables published by the Royal Society.

*Maximum temperature for each month in the year. London and Malvern.*

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| London ..... | 49.7 | 53.2 | 54.2 | 66.2 | 72.8 | 86.7 | 86.7 | 83.3 | 74.8 | 70.2 | 61.0 | 54.0 |
| Malvern ..... | 52.5 | 52.5 | 58.0 | 62.0 | 66.0 | 76.0 | 80.0 | 75.5 | 70.0 | 64.0 | 59.0 | 55.0 |

*Minimum temperature for each month in the year. London and Malvern.*

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| London ..... | 24.9 | 27.9 | 32 7 | 30.0 | 41.7 | 47.3 | 51.4 | 46.2 | 46.2 | 34.4 | 33.0 | 29.2 |
| Malvern ..... | 23.0 | 28.5 | 31.0 | 28.0 | 37.0 | 43.0 | 49.5 | 43.0 | 40.0 | 35.5 | 30.0 | 32.0 |

*Mean maximum temperature for each month in the year. London and Malvern.*

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| London ..... | 43.1 | 47.7 | 48.3 | 55.8 | 62.5 | 72.5 | 74.7 | 72.8 | 67.3 | 58.2 | 49.4 | 45.6 |
| Malvern ..... | 42.1 | 48.0 | 47.9 | 53.9 | 58.2 | 66.8 | 67.0 | 66.5 | 64.0 | 56.1 | 47.0 | 45.8 |

*Mean minimum temperature for each month in the year. London and Malvern.*

| | Jan. | Feb. | Mar. | Apr. | May | Jun. | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| London ..... | 35.3 | 37.1 | 37.2 | 42.4 | 48.0 | 55.0 | 59.3 | 57.9 | 54.1 | 46.2 | 41.4 | 38.1 |
| Malvern ..... | 35.1 | 37.4 | 37.0 | 41.6 | 45.0 | 51.0 | 54.1 | 53.6 | 49.3 | 44.3 | 40.4 | 39.6 |

*Mean temperature of each month in the year London and Malvern.*

| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| London ..... | 39.2 | 42.4 | 42.7 | 49.1 | 55.2 | 63.5 | 67.0 | 65.3 | 60.7 | 52.2 | 45.4 | 41.8 |
| Malvern ..... | 38.6 | 42.7 | 42.4 | 47.7 | 51.6 | 59.0 | 60.5 | 60.0 | 56.6 | 50.2 | 43.7 | 42.7 |

*Mean temperature of the seasons.**

| | Spring. | Summer. | Autumn. | Winter. |
|---|---|---|---|---|
| London ..... | 49.0 | 65.2 | 52.7 | 41.1 |
| Malvern ..... | 47.0 | 59.8 | 50.1 | 41.3 |

*Mean temperature of the year.*

London ..... ..... 52.0†
Malvern ..... 49.6

* *Spring* including the months of March, April, and May.—*Summer*—June, July, August—and so on.

In the report on Meteorology, in the 1st vol. of the *Reports of the British Association*, the author states, "That the errors arising from solar and terrestrial radiation, in determining the temperature of a place, have not been sufficiently attended to. It is surprising at what a distance a sensible portion of heat is conveyed from soil, walls, or even from grass, illuminated by the sun. The maxima of temperature are thus, generally, too great; and from the near contact in which thermometers are generally placed with large difficultly conducting masses, such as walls, &c. the temperature during the night is kept up, and the minima are thus also too high."

The effect mentioned here may be supposed peculiarly liable to occur in London, where the copious and varied reflections of heat from the pavement, buildings, &c. in the bright days of summer, must considerably increase the maximum of the thermometer; and we find, from the above tables, that the mean maximum of summer is, in London, 5.4°, and in autumn 2.6° *higher* than in the elevated situation in which the village of Great Malvern stands. On the other hand, the mean temperature of winter, in the two places, does not much differ; and the mean of the spring months, gives a difference of only 2°.

† The mean temperature of London, derived from the daily maxima

I have, on three occasions, tried the temperature of a very fine and copious spring in the village, and the following are the results:—In the first, the temperature of the air was 30°, the water 50°; in the second, the air 56°, a thermometer immersed to the bottom of the spring 50.5°; in the third, the temperature of the air 75°, the water 52°—this was after ten days very hot and dry weather.

2. *Atmospheric Pressure.*—In instituting a comparison between two barometers, in order to estimate the atmospheric pressure at two distant places, it

and minima by Mr. Daniell, from observations for three years, is 49.5°; which corresponds, even to the decimal place, with Mr. Howard's estimate. The higher mean denoted by the above results, arises, probably, from the greater mildness of the winter of 1834–35.

The mean temperature of a climate, is generally regarded as made up of the average impression of the sun due to its latitude upon the surface of the globe. But in considering the climate of any place in Great Britain, this statement must be taken with some limitation: according to it, the cloudy days would be the coldest, but, during the winter season in this country, it is not generally so; on the contrary, the south-west winds, during the winter months, bring up large and copious accessions of vapour, of a high constituent temperature, warming the air, and raising the thermometer; at the same time thick clouds form, and everywhere obscure the sky, accompanied, very often, with large quantities of rain; on the other hand, with north-easterly winds, the atmosphere is frequently freed from cloud, the sun shines brilliantly for days together, but the temperature in the shade is many degrees below the cloudy, damp, and vaporous breeze from the south-west. During the winter, I have very frequently observed the maximum of the thermometer at eleven or twelve at night, or even one or two in the morning, a result that can only be due to a change of wind, and the consequent accession of warm vapour. In a clear sky, during the winter, the earth radiates heat, even in the middle of the day, almost as fast as it receives it, so that the temperature, in the shade, during a bright day at this season, advances but little; but warm vapour and dense clouds not only prevent the earth's radiating *its* heat, but, at this season, bring with them a positive warmth.

is necessary to premise the conditions of the instruments, the corrections necessary for each, and the circumstances of the localities in which they are placed.

In the standard barometer of the Royal Society the tube is $33\frac{3}{4}$ inches long; its exterior diameter 0.86 inch, and the diameter of the bore 0.530 inch. The cistern is turned in well-seasoned mahogany, and there is a small cavity in its bottom to receive the end of the tube, which rests upon it; a groove communicates with the cavity, to ensure the free passage of the mercury. Everything has been studied in this instrument to render accuracy attainable, with as little trouble as possible to the observer. The diameter of the tube renders the correction for capillary action almost unnecessary. The correction for the capacity of the cistern has been contrived to be 1-100th of the result above or below the neutral point 30.576.

The barometer I have used at Great Malvern, is an instrument carefully constructed by myself. The tube is 34 inches long, its exterior diameter .5 inch, and the diameter of the bore .250 inch. The mercury has been boiled throughout in the tube. The cistern is turned in mahogany, and through the bottom the tube passes into a leathern bag firmly fixed to its circumference; a small hole forms a communication between the two. At one part of the circumference of the cistern an ivory point is fixed, and a screw, acting upon the lower part of the bag, will always keep the surface of the mercury just touching this point: thus the correction for the capacity of the cistern is rendered unnecessary.

The scale has been duly affixed after several accurate measurements from the ivory point.

In the following tables of barometrical heights, every correction has been applied, except that for the elevation of the village, so that they are strictly comparable one with another: in the Royal Society's barometer, the variable correction for *capacity*—and in the barometer at Malvern, the constant one, .055 has been added for *capillary* action; the diameter of the bore in the latter instrument being so much smaller than in the former, renders this requisite. The whole of the heights stated have been reduced to one temperature, 32°F.*

* That the reader may be put in possession of the practical application of these corrections we shall subjoin the detail of the process, taking the mean height of the barometer for September 1834 in London and Malvern.

| LONDON. | | MALVERN. | |
|---|---|---|---|
| Mean Height. | | Mean Height. | |
| 30.114 | Temperature 62.9 | 29.441 | Temperature 59.7 |
| —.005 | Correction for capacity obtained thus 30.576 neutral point | .055 | Add correction for capillary depression |
| 30.109 | 30.114 | 29.496 | |
| | —.00462 | —.071 | Correction for temperature |
| —.083 | Correction for temperature | 29.425 | True height at 32° |
| 30.026 | True height at 32° F. | .570 | Add a constant correction for the elevation of Malvern .570 and |
| | | 29.995 | the results *very* nearly agree |

In order to make a comparison between two barometers *absolutely accurate,* it is necessary that the elasticity of the vapour of the atmosphere should be estimated at each place, by determining the dew-point, and adding or subtracting according as it is higher or lower in the one place or the other.—This would be a very laborious task; and as the correction is always small, it has been neglected. I have made the correction for the *means* of the different seasons hereafter stated, and I find the difference between the barometer in London and Malvern to be, for the summer quarter, only .007 in., and for the autumn .016 in.

*The maximum, minimum, mean, and the range of the barometer, for each month in the year, (from June, 1834, to June, 1835,) at London and Malvern.*

| | LONDON. | | | | MALVERN. | | | |
|---|---|---|---|---|---|---|---|---|
| | Max. | Min. | Mean | range. | Max. | Min. | Mean | range. |
| 1835–January... | 30.759 | 29.031 | 30.048 | 1.728 | 30.158 | 28.359 | 29.445 | 1.799 |
| February... | 30.417 | 29.178 | 29.796 | 1.239 | 29.376 | 28.526 | 29.159 | 1.350 |
| March ..... | 30.513 | 28.797 | 29.903 | 1.716 | 29.913 | 28.192 | 29.274 | 1.721 |
| April ..... | 30.429 | 29.475 | 30.077 | 0.954 | 29.873 | 28.965 | 29.526 | 0.908 |
| May..... | 30.123 | 29.427 | 29.813 | 0.696 | 29.590 | 28.850 | 29.243 | 0.740 |
| 1834–June ..... | 30.325 | 29.597 | 29.930 | 0.728 | 29.746 | 28.953 | 29.332 | 0.793 |
| July ..... | 30.213 | 29.396 | 29.876 | 0.817 | 29.665 | 28.892 | 29.269 | 0.773 |
| August ... | 30.109 | 29 593 | 29.819 | 0.516 | 29.572 | 28.955 | 29.245 | 0.617 |
| September. | 30.461 | 29.315 | 30.026 | 1.146 | 29.877 | 28.740 | 29.425 | 1.137 |
| October ... | 30 619 | 29.237 | 29.996 | 1.382 | 30.027 | 28.734 | 29.401 | 1.293 |
| November.. | 30.379 | 29.141 | 29.904 | 1.238 | 29.883 | 28.586 | 29.331 | 1.297 |
| December.. | 30.576 | 29.215 | 30.265 | 1.361 | 30.043 | 28.611 | 29.700 | 1.432 |

*The mean height and the mean range of the barometer, at London and Malvern, in the spring, summer, autumn, and winter, before stated.*

| | SPRING. | | SUMMER. | | AUTUMN. | | WINTER. | |
|---|---|---|---|---|---|---|---|---|
| | Mean height. | Mean range. | Mean height. | Mean range. | Mean height. | Mean range. | Mean height. | Mean range. |
| London ..... | 29.931 | 1.122 | 29.875 | 0.687 | 29.975 | 1.255 | 30.036 | 1.443 |
| Malvern ..... | 29.348 | 1.123 | 29.282 | 0.727 | 29.385 | 1.242 | 29.435 | 1.527 |

*Mean height and mean range of the barometer for the year.**

| | Mean height. | | Mean range. |
|---|---|---|---|
| London ..... | 29.954 | ..... | 1.127 in. |
| Malvern ..... | 29.362 | ..... | 1.155 in. |

* Mr. Daniell from an average of three years' observations, makes the mean height of the barometer in London 29.881. The mean of twenty years, deduced by Mr. Howard is 29.865. The above result does not vary much from Mr. Daniell's, nor greatly from Howard's.

The elevation of the village of Great Malvern is about 520 feet; it is therefore necessary to add about .570 in. to all the heights observed. If the reader should take the trouble of doing this to any of them, he would immediately perceive the very slight differences in the fluctuations of the barometer in London and Malvern.

In looking over the various daily details from which the foregoing mean barometrical heights have been deduced, the coincidence in the movements of the two barometers was so constant, that I have taken pains to determine accurately this point; and upon comparing the *daily* fluctuations, for a whole month, at the same time at each place, after every necessary correction, the variation between the simultaneous movements of each has very generally not been more than a few hundredths, a result peculiarly establishing the constant magnitude of the atmospheric movements

There are many minor circumstances likely to introduce discrepancies in any comparison between the heights of two barometers distantly situated, and noted by different persons; thus they may not be observed at *precisely* the same period, and this, should they happen to be rising or falling rapidly at the time, would introduce some error; again, at the time of observation, one person may give a tap with his finger to the tube—the other may not, which will sometimes make a difference of some hundredths, the mercury, often adhering slightly to the glass, resuming its proper indication when gently moved or shaken.

From these considerations (to say nothing of the

probable error in printing three different decimal figures thirty times every month) we must conclude that *the fluctuations of the barometer at London and Malvern are very nearly simultaneous and equal,* and, if so, of course in all places intervening.*

3. *Vapour.*—All those important meteorological phenomena, rain, cloud, mist, dew, &c. are primarily dependent upon the condition of the vapourous atmosphere which on every side surrounds us, and the health and feelings of individuals are very often materially influenced thereby; it is therefore requisite, in any estimate or comparison of climates, that the changes it is daily undergoing, should be ascertained and recorded. The hygrometer enables us to do this, particularly the one now well known as Daniell's hygrometer

In the Meteorological Tables, published by the Royal Society, there is a column including the dew-point every morning at nine a. m.; and I have made similar observations at the same hour at Malvern. The results are stated in the following table.

* The following remarks will not materially invalidate the above general conclusion; they tend, however, to shew that, occasionally, *a little time* is required in the passing of the great atmospheric oscillations over places one hundred miles from each other, and their *apex of ascent and depression* are not always quite equal at that distance.

On the morning of the 16th of January, both barometers had fallen to the minimum of the month, but the instrument at Malvern was for about two or three hours 1-10th inch below that in London; at this period, in Malvern, *very heavy rain* fell—whilst in London, the weather was *overcast, light rain, light wind*—at three p. m. on the same day, the barometers coincided.

On the 7th of March the minimum occurred—at Malvern, at nine a. m.—in London, at three p. m.; at the former place were *very heavy showers* and *light wind*—at the latter, *lightly overcast* with *brisk wind.*

*Maximum, minimum, and mean dew-point, for each month in the year, before stated.*

| | LONDON. | | | MALVERN. | | |
|---|---|---|---|---|---|---|
| | Maximum | Minimum. | Mean. | Maximum | Minimum. | Mean. |
| January ..... | 48.0 | 17.0 | 35.6 | 48.5 | 21.0 | 36.1 |
| February ..... | 45.0 | 22.0 | 36.3 | 49.0 | 30.0 | 38.5 |
| March ..... | 42.0 | 29.0 | 36.5 | 50.0 | 30.0 | 38.6 |
| April..... | 51.0 | 26.0 | 41.3 | 54.0 | 25.0 | 41.5 |
| May ..... | 56.0 | 40.0 | 48.3 | 54.0 | 39.0 | 46.2 |
| June ..... | 62.0 | 45.0 | 51.5 | 62.0 | 43.0 | 51.1 |
| July ..... | 69.0 | 54.0 | 59.4 | 68.0 | 50.0 | 55.8 |
| August ..... | 67.0 | 49.0 | 59.1 | 64.5 | 47.5 | 55.8 |
| September .... | 64.0 | 47.0 | 55.8 | 57.0 | 49.5 | 52.8 |
| October ..... | 60.0 | 26.0 | 48.7 | 55.0 | 37.0 | 46.3 |
| November .... | 58.0 | 34.0 | 43.6 | 58.0 | 28.0 | 40.5 |
| December .... | 53.0 | 33.0 | 41.3 | 53.0 | 32.0 | 40.0 |

*From the foregoing table we obtain the mean dew-point.*

| | Spring. | Summer. | Autumn. | Winter. |
|---|---|---|---|---|
| London ..... | 42.0 | 56.6 | 49.3 | 37.7 |
| Malvern ..... | 42.1 | 54.2 | 46.5 | 38.2 |

*Mean dew-point, at nine a. m. for the year.**

London ..... 46.4°.
Malvern ..... 45.2°.

When consulting the hygrometer, with a view of ascertaining the greater or less probability of rain, or other atmospheric change, two things are principally necessary to be attended to, the difference between the *temperature of the dew-point,* and the *temperature of the air,* and the variations that may

* The mean dew-point calculated by Mr. Daniell from the daily maxima and minima is 44.5°; the above mean results, it will be remembered, are derived from daily observations at nine a. m.

occur between them. In general the chance of rain, or other precipitation of moisture from the atmosphere, may be regarded as in an inverse proportion to the difference between the two thermometers, one marking the dew-point, the other the temperature of the air.

An increasing difference, accompanied with a fall in the dew-point, is an almost sure prognostic of fine weather; whilst a diminution in the temperature of the air, and a rising dew-point, portend rain. In winter, when the differences between the dew-point and the temperature of the air are always small, the indications must be taken more from the actual rise and fall of the dew-point, than from the difference between it and the temperature of the air. And at this season I have generally found that if the dew-point at nine a. m. is above the minimum temperature of the preceding night, with a falling barometer, rain or snow may be expected; on the other hand, if the dew-point at nine in the morning is at or below the minimum of the preceding night, with a stationary or rising barometer, fair weather may be confidently expected. A sudden change in the dew-point is generally accompanied by a change of wind, and the former sometimes precedes the latter by a short interval: and the course of the aerial current may then be anticipated before it affects the direction of the weathercock, or even the passage of smoke. A rise in the dew-point, accompanied with a fall of the barometer, is an infallible indication that the whole mass of the atmosphere is becoming imbued with vapour, and a copious precipitation may be expected. If a fall

in the barometer, and a fall in the temperature of the dew-point, take place at the same time, we may conclude that the expansion which occasions the former has arisen at some distant place, and wind, not rain, will be the result.*

4. *Wind.*—The hills at Malvern influence so much the force and direction of the wind, that it is often very difficult to determine precisely the point whence the great atmospheric current comes; it is not always that there are clouds by which to determine; besides, when these are high, it not unfrequently happens that they are subjected to the movements of the higher currents, and passing away in a direction quite opposite to the wind below. The determination of the precise point from which the wind blows is not very material, provided the following circumstances are borne in mind, as influencing in a very marked degree, not only the *temperature* of the *wind,* but the *elasticity* of the *vapour* it bears with it.

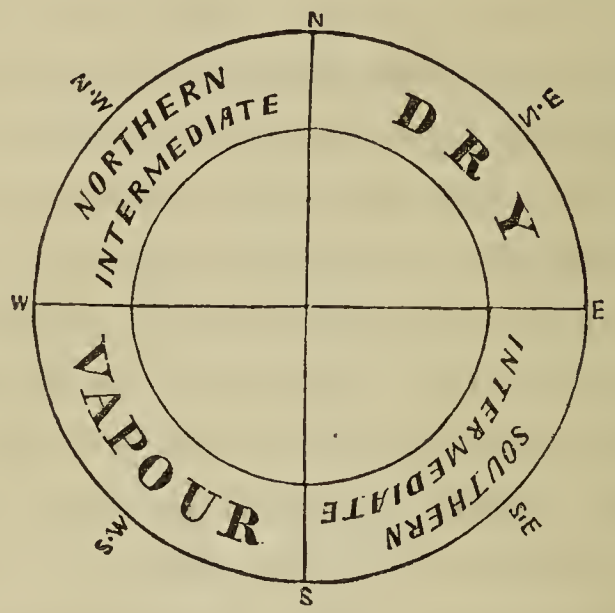
From north to east, Great Britain is bounded by the Arctic Ocean, the cold mountainous regions of Sweden and Norway, with other portions of the continents of Europe and Asia; from south to west, by the southern Atlantic Ocean; from north to west, by the North Atlantic, and the distant shores of America; from south to east, by the warmer regions of Europe, &c.

From these circumstances, and from the general fact that winds blowing over large tracts of land are cooler than those coming from off the ocean, it results that in this country north-east winds are

* Vide *Daniell's Meteorological Essays.*

the coldest—south-west the warmest. North-west are intermediate, with a northerly character; and south-east, with a southerly character.*

The winds, therefore, may be divided as in the following diagram:




* The dew-point can never be higher than the temperature of the air. Supposing, therefore, during the winter in the high regions of Lapland, Sweden, and Norway, the temperature of a breeze to be 20° or 24° F., often doubtless very much lower, air of that temperature cannot hold vapour higher than 20° or 24°. This atmosphere being put in motion, and rushing rapidly to the southern and warmer regions, is constantly acquiring a higher temperature, but passing over only a limited tract of ocean, it acquires but little increase in its vapour; the dew-point, consequently, remains very nearly the same.

Let us suppose that such a breeze has reached the temperature of 32° or 34° when arriving at the British Isles, the difference between this and the dew-point (20° or 24°) would constitute a very dry harsh wind, little likely to be accompanied with any deposition; on the contrary, drying up all the moisture it meets with, *it would have precisely the character of our north-east winds in a very marked degree.*

On the other hand, a south-west breeze coming from the warmer regions and over an immense tract of ocean, into the colder temperature of Britain, would soon become cooled, until the temperature of the air was no greater than the temperature of the vapour it bears with it or the dew-point. At this point, and pursuing still its northerly course, some of the vapour must be precipitated, or take the shape of cloud, in either of which cases it parts with that portion of its temperature which was necessary to its invisible condition, and this is im-

Contrasting these two winds, north-east and south-west, so opposite in character and direction, we have the following—

*Table of mean temperatures and mean dew-points, at London and Malvern.*

| | Wind. | LONDON. | | MALVERN. | |
|---|---|---|---|---|---|
| | | Mean temp. | Mn.dew-point | Mean temp. | Mn.dew-point |
| Spring ... | N. E. | 48.0 | 40.0 | 46.1 | 37.1 |
| | S. W. | 50.4 | 43.5 | 50.9 | 46.3 |
| Summer. | N. E. | 64.2 | 55.4 | 60.0 | 53.3 |
| | S. W. | 66.8 | 57.0 | 62.4 | 56.0 |
| Autumn. | N. E. | 49.4 | 45.6 | 47.0 | 43.2 |
| | S. W. | 53.4 | 50.8 | 53.6 | 50.5 |
| Winter... | N. E. | 35.6 | 29.6 | 35.0 | 28.7 |
| | S. W. | 46.0 | 42.9 | 45.6 | 44.0 |

An attentive consideration of the above table will shew, that in spring the mean temperature of south-west winds is 5° higher in Malvern than the mean temperature of north-east ones; whereas, in London, the mean difference between them is only about half this, or $2\frac{1}{2}°$. At this season the mean dew-point at Malvern, of south-west winds, is 9° higher than the mean dew-point of north-east ones; whereas, in London, the mean difference is not more than $3\frac{1}{2}°$. North-east winds, in the spring, are

mediately absorbed by the air. The consequence is, that the south west breezes, when they reach our shore, bring with them the character of the locality whence they spring, modified by the colder temperature they meet with. *They are mild, and, except in the summer, almost always saturated with vapour*, i. e. the temperature of the air and the dew-point are pretty nearly the same.

rather colder and dryer at Malvern than in London: south-west winds are a little warmer and more damp.

During summer the mean temperature of south-west winds, at Malvern, is about $2\frac{1}{2}^{\circ}$ warmer than the temperature of north-east ones: and the same remark applies to London.

At this season the mean dew-point, at Malvern, of south-west winds, is about $2\frac{1}{2}^{\circ}$ higher than the mean dew-point of north-east ones. In London the mean difference is very little more than $1\frac{1}{2}^{\circ}$.

North-east and south-west winds are each about 4° colder at Malvern than at London. North-east winds are about 2°, and south-west 1° dryer at Malvern than in London.

In autumn, the mean temperature of south-west winds, at Malvern, is $6\frac{1}{2}^{\circ}$ higher than the mean temperature of north-east ones. The mean difference in London being 4°.

At this season the mean dew-point, at Malvern, of south-west winds, is something more than 7° higher than the mean dew-point of north-east ones. In London the mean difference is about 5°.

North-east winds, at this period, are about $2\frac{1}{2}^{\circ}$ colder at Malvern than in London; whereas south-west winds are a little warmer. The former winds are still rather dryer at Malvern than in London; but south-west winds have an equal degree of dampness, or bring with them, at each place, the same mean quantity of vapour.

In the winter season, the mean temperature of south-west winds, at Malvern, is nearly 10° higher than the mean temperature of north-east ones; and there is the same difference in their mean temperatures at London.

At this season, the mean dew-point, at Malvern, of south-west winds, is $15\frac{1}{2}^{\circ}$ higher than the mean dew-point of north-east ones. At London, the mean dew-point of south-west winds is $14\frac{1}{2}^{\circ}$ higher than the mean dew-point of north-east.

The mean temperature of north-east winds, in London, is only half a degree warmer than the mean temperature of these winds at Malvern. The mean temperature of south-west winds is nearly the same in both places. North-east winds are a little dryer, and south-east winds rather more damp, at Malvern than in London.

If we limit our division of the winds to two currents, calling that coming from the south of east and west, the *vapour current;* and that from the north of these two points, the *dry;* the following are the results at London and Malvern, for the several months and seasons:

| | DECEMBER. | | JANUARY. | | FEBRUARY. | |
|---|---|---|---|---|---|---|
| 1834-35. | Vapour. | Dry. | Vapour. | Dry. | Vapour. | Dry. |
| London | 17 | 14 | 20 | 11 | 25 | 3 |
| Malvern | 16 | 15 | 20 | 11 | 23 | 5 |

TOTAL FOR THE WINTER.

| | Vapour. | Dry. |
|---|---|---|
| London | 62 | 28 |
| Malvern | 59 | 31 |

| | MARCH. | | APRIL. | | MAY. | |
|---|---|---|---|---|---|---|
| 1835. | Vapour. | Dry. | Vapour. | Dry. | Vapour. | Dry. |
| London | 19 | 12 | 14 | 16 | 19 | 12 |
| Malvern | 16 | 15 | 13 | 17 | 18 | 13 |

TOTAL FOR THE SPRING.

| | Vapour. | Dry. |
|---|---|---|
| London | 52 | 40 |
| Malvern | 47 | 45 |

| 1834. | JUNE. Vapour. | Dry. | JULY. Vapour. | Dry. | AUGUST. Vapour. | Dry. |
|---|---|---|---|---|---|---|
| London | 23 | 7 | 15 | 16 | 19 | 12 |
| Malvern | 23 | 7 | 16 | 15 | 17 | 14 |

TOTAL FOR THE SUMMER.

| | Vapour. | Dry. |
|---|---|---|
| London | 57 | 35 |
| Malvern | 56 | 36 |

| 1834. | SEPTEMBER. Vapour. | Dry. | OCTOBER. Vapour. | Dry. | NOVEMBER. Vapour. | Dry. |
|---|---|---|---|---|---|---|
| London | 15 | 15 | 20 | 11 | 14 | 16 |
| Malvern | 24 | 6 | 22 | 9 | 11 | 19 |

TOTAL FOR THE AUTUMN.

| | Vapour. | Dry. |
|---|---|---|
| London | 49 | 42 |
| Malvern | 57 | 34 |

TOTAL FOR THE YEAR.

| | Vapour. | Dry. |
|---|---|---|
| London | 220 | 145 |
| Malvern | 219 | 146 |

5. *Rain.*—To complete this comparison between the climates of London and Malvern, we must enumerate the number of days on which rain fell at each place during the year.

In the following statement, the numbers for Malvern include all the days upon which rain fell, whether much or little—the slightest shower between eight a. m. and ten p. m. is included. Whether the meteorological tables of the Royal Society do the same, we are unable to determine. The summer and autumn of the past year (1834) had some peculiarities with regard to rain, which it is right to mention. Along the south-eastern coasts of England hardly any rain at all fell, and all the inconveniences of a long drought were experienced;

whereas, in London there was no complaint of deficiency; and on the western coast, rain was so abundant that two crops of hay were generally secured, and the autumnal grass was most luxuriant.

*Number of days on which rain or snow fell.*

| 1835. | March. | April. | May. | Total for the Spring Quarter. |
|---|---|---|---|---|
| London | 12 | 12 | 15 | 39 |
| Malvern | 10 | 9 | 16 | 35 |

| 1834. | June. | July. | August. | Total for the Summer Quarter. |
|---|---|---|---|---|
| London | 11 | 10 | 14 | 35 |
| Malvern | 14 | 12 | 16 | 42 |

| 1834. | September. | October. | November. | Total for the Autumnal Quarter. |
|---|---|---|---|---|
| London | 8 | 6 | 7 | 21 |
| Malvern | 8 | 9 | 9 | 26 |

| 1834-5. | December. | January. | February. | Total for the Winter Quarter. |
|---|---|---|---|---|
| London | 8 | 13 | 13 | 34 |
| Malvern | 7 | 9 | 12 | 28 |

*Total number of days on which rain or snow fell in the year.*

| | |
|---|---|
| London | 129 |
| Malvern | 131 |

As Malvern has the reputation of being a remarkably healthy spot, it would be interesting if any statistical facts, shewing the value of its claim, could be produced; but it is impossible to select any such, applicable only to the village or the locality on the hill; they are mingled with those of the whole of a large parish, nine-tenths of the area of which is in a flat, or nearly flat vale at the foot of a chain of elevations, which tend rather to deteriorate than improve the atmosphere of the level surface in their immediate vicinity.

We must, therefore, rest content with the testimony of those who have experienced the great and often rapid improvement of health which occurs from a residence in Malvern.

That its well established salubrity does not altogether depend upon any of those meteorological phenomena embraced in the foregoing tables, must be sufficiently obvious, when the difference found, on a comparison of the results at London and Malvern, is so small.

The oscillations of the barometer, we have seen, hardly vary at all. The greatest difference in the maximum of the thermometer, at the two places, never amounted to more than 10°; and in the minimum to more than 6°. The weight and elasticity of the vapour of the atmosphere, likewise do not differ much; the greatest variation in the maximum dew-point was 7°, and in the minimum 11°.

Now, in the same place, the variations in the maximum of the thermometer, and in the dew-point, are sometimes much greater in a comparison of two successive days, amounting to from 10, 15, or even as much as 20 degrees in the former; and 10, 15, or 17 degrees in the latter; *so that throughout the year there is not so great a difference, at any period, between the temperature either of the air or vapour at London and Malvern, as there is, sometimes, at either place between one day and another.*

The variations in the other phenomena usually embraced in meteorological registers, wind, rain, &c. do not furnish materials sufficient, in any degree, to account for differences in the salubrity of these or other places.

In attempting to point out any adequate reason for the greater salubrity of one place than another, we are constrained to look to other circumstances than those usually embraced in meteorological enquiries: neither the thermometer, barometer, nor hygrometer, furnishing sufficient data for the purpose.

An investigation into the nature and consistence of the soil—the conditions of its surface—the circumstances attendant upon the exhalations arising therefrom—and, above all, the phenomena resulting from their precipitation; conjoined with careful observations on the daily temperature, pressure, motion, and vapour of the air—will be much more likely to elucidate the object of such an inquiry, than the greatest attention bestowed on the latter mentioned points only.

In a district, therefore, where meteorological observations are instituted for the purpose of ascertaining the causes of local salubrity, it will be necessary to notice whether the general character of the soil is clayey or sandy, and this not only with reference to the immediate spot where they may be carried on, but for some miles around; whether the subsoil is rocky, chalky, clayey, or otherwise, and the contiguous localities well or ill drained; whether, in regard to the surrounding district, the particular spot lies high or low; and whether extensive tracts of meadow or arable land prevail; much or little wood, water, &c.

It is well known that the atmosphere has mingled with it variable quantities of aqueous vapour, and likewise the exhalations arising from the materials exposed on the surface of the earth to the sun; it

is also known that aqueous vapour increases the vaporizing force of all substances, becoming, as it were, an active agent, carrying off every diffusive emanation into the air. We can readily distinguish several earths and stones by their smell, nay, the metals themselves are not all devoid of odour, some particles, therefore, however minute they may be, pass from them into the air; added to these, are the attenuated matters given off in the processes of vegetation, and in the chemical changes which take place during decomposition.

All these emanations, as well as the vapour of water itself, are, in their ascent, so extremely diluted as not to affect, in any way, the senses or functions of the human frame. But, when they descend again upon the earth, they accumulate in the lowest strata of the atmosphere, are often appreciable by the senses, and, in many localities, unquestionably prejudicial. Whether the extraneous matters always descend when the aqueous vapour which bears them upward is condensed, or whether they sometimes remain in the upper regions an indefinite period, and then gradually, by some natural operation, accumulate and fall down, is a question not, perhaps, easily determined. If we consider the production of epidemical diseases an evidence of their effects, we may then reasonably conclude that they generally descend when the vapour with which they are associated is condensed, though, perhaps, they sometimes remain and accumulate until some hidden operation in the higher regions favours their precipitation. I by no means intend to be understood as implying

that the vapour every where arising from the surface of the globe necessarily disentangles *noxious* exhalations, but, that where the surface does contain the materials for their production, there aqueous vapour promotes their disengagement, is the agent through whose means they escape, and associated with which they rise into the higher regions; and, therefore, that it is important the various forms and changes to which this the more tangible material (if we use the expression) is subject, should be attended to.

Water can exist in an aeriform and invisible shape only under the influence of caloric, and the quantity of vapour present in the atmosphere has always a reference to the temperature of that medium; there being a variable point at which it must assume a different, a visible shape. This variable point, in Daniell's hygrometer, is exhibited in degrees of the thermometer, and is called the dew-point; the instrument shewing the exact thermometric degree to which, if the temperature of the air falls, the vapour mingled with it will begin to assume the form either of dew, fog, or cloud.

When the lower strata of aqueous vapour of the atmosphere are condensed in the form of dew, those above descend and experience a similar change. Now, if vapour undergoing this process is associated with extraneous invisible exhalations, it is probable that the latter may continue floating about in the air after the vapour with which they were conjoined has been deposited upon the ground, and the process continuing, of course they become concentrated, and, if of a noxious quality, dangerous.

Any natural process having a tendency to cool the air, so that its temperature falls to or below the dew-point, without originating any lateral motion to clear away the extraneous atmospheric impregnations which ensue, will contribute very much to concentrate them in the lower portions of the air.

Now this is the case with terrestrial radiation, which, with a clear and calm atmosphere, rapidly diminishes the temperature of certain parts of the earth's surface, and the circumambient air, condensing the vapour it contains, and creating a local, cold, damp, and very often malarious, atmosphere.

The mists and fogs which frequently form during the night, over valleys, on the banks of rivers, and in all low situations, are, therefore, objects peculiarly claiming the notice of the meteorologist; they are caused by the terrestrial radiation of caloric cooling the air and condensing the aqueous vapour mingled with it; and if this vapour happens to have been the carrying agent to any injurious exhalation, the development of the latter, in a deleterious form, at the same period, commences. This is amply substantiated by the well-known unhealthy character of the night season in tropical climates, where the sun has great power during the day, and where the dews are in an extraordinary degree copious; and is still further confirmed by many instances in which severe epidemic diseases have made their attack during the night.

From a careful consideration of the subject, I cannot but conclude that Terrestrial Radiation is one of the most important of those meteorological phenomena usually considered as influencing the health

of communities or individuals; and that every circumstance which can in any way diminish its influence, or circumscribe its effect, should be pointed out.*

It is very true that neither the climate, soil, nor natural constitution of a country, are the modellers of the character of nations; nor will they enable us to account for the distinctions which characterise the several races or families of mankind. We may find that we cannot deduce from these influences, the mental attributes of any portion of the human race; indeed, we well know, that in the same country, in the same spot, nay, under the same roof, are to be found persons entirely differing from each other in intellectual faculties, and in corporeal conformation and strength; nevertheless, it is equally true that the health of individuals does depend, very much, upon peculiarities of locality, determining certain meteorological effects.

The height of the Worcestershire Beacon is stated, by Col. Mudge, to be 1444 feet. From two barometrical measurements, carefully performed, (the details of which are stated at length in Appendix No. 2) I found the summit of the Worcestershire Beacon to be 924 feet above the village; this gives about 520 feet as the height of Great Malvern.

At this elevation the houses are sheltered from the wind by the high rocky masses behind; and although

* For the several facts and reasoning relative to this subject, I may refer the reader to—*Wells's Essay upon Dew; Johnson on Tropical Climates;* and other works treating on the diseases of hot countries; to the *Dissertation on the Malvern Waters,* &c.; and also to papers in the *Philosophical Magazine* for October and November, 1828; *Medical Gazette* for 1831; and *The Midland Reporter,* vol. 3.

quite open to the east, still they are more sheltered from winds blowing from this quarter than from any other. The reason of this I have elsewhere stated to be the precipitous rise of the hill close to the houses, which, in a very decided degree, lessens or breaks the force of the current of air.* An easterly wind, indeed, rushes with great rapidity over the crest of the range, but it is sometimes *quite*, and always *comparatively* stilled below. I have, on various occasions, been at the summit of the hill, the wind blowing very fresh from the east, while below, in the village, the air has been quite calm; the narrow line of the hills acting precisely as a dam in a current of water would do, destroying the motion below, and allowing the stream to rush over the top.

Westerly winds are sometimes very troublesome, the current, as before stated, coming over the top of the hills with great force, descends in violent eddies and gusts. The general fact being, that *close along the base of a high narrow chain of hills, strong winds are more felt on the leeward than on the windward side.*†

* Vide *The Midland and Surgical Reporter*, vol. 2, p. 131.

† This is well known to most nautical persons, and I can, from experience, give one striking example. Saint Helena is a high mountainous island, lying in the south-east trade wind, and the harbour of James Town is on the leeward side of the island. Ships rounding the point to enter, and, as would seem, getting under shelter of the land, are obliged to have all ready for handing in sail, or the strong gusts and eddies coming down from the mountains would carry away some of the lighter masts, although just previously they had been exposed safely to the whole force of the unrestrained current. On the windward side, near the bottom of the mountain, the wind (but not the sea) is comparatively still.

If this is true, and repeated observation has confirmed (with me) the fact, then an inclined slope thus circumstanced, towards the east, has another important advantage; for not only is it sheltered from the east wind, but, after the diminished temperature of night, such an inclined surface is the first to receive, in the most favourable manner, the rays of the morning sun; and in the afternoon, when the sun withdraws behind the hill, the temperature, in the shade, is many degrees above what it was in the morning; besides, it very frequently happens, especially in the colder months, that the sun rises with great splendour, and shines brightly for three or four hours, but, towards midday, clouds gradually form and obscure it: thus the balance of advantages, in this respect, is wholly in favour of an eastern slope. The early disappearance of the sun in the afternoon, at Malvern, has often been deplored in the winter months; and the gloom cast by the shadow of the hill over the village, two or three hours before sunset, when all the plain below is illuminated by his brilliant rays, is not cheering at this season; but, I believe, the decline of temperature is not commensurate with the feelings thus produced.

The ground gradually sloping from the village facilitates, in a material degree, the subsidence of the cold damp air which results from the cooling of the earth by *radiation* at night; and, very frequently, a dense fog may be seen overspreading the vale below, while the village is quite clear, and enjoying the bright and warm rays of the sun; at such

times the thermometer, at night, falls several degrees lower in the plain than at Malvern, particularly if the atmosphere is calm: an evident indication that moderate elevations are much less subjected to the effects of terrestrial radiation than places lower down. The houses at Malvern appear to lie between those fogs which result from the cold of radiation, and those descending from above; and, speaking from my own observation, I should remark, that they are oftener enveloped in the latter species of fog than the former. When the lower edge of a cloud descends so as to obscure objects raised only 500 or 600 feet above the mean level of the earth's surface, the barometer will generally be found low, and the temperature, except, perhaps, in the summer months, above the mean of the season; so that these may truly be called *warm fogs*, in contradistinction to those which rise upward by the gradual thickening or deepening of the cold misty, and too often malarious, stratum below.

The salubrity of Malvern may, I think, be attributed,—first, to the air being rendered pure and invigorating by an elevation sufficiently above the cold and miasmatous strata caused by terrestrial radiation;—secondly, to the dry sandy nature of the soil, resulting from the decomposition of the contiguous rock;—thirdly, to the shelter from easterly winds especially, afforded by the precipitous rise of the hill in close contiguity to the habitations;—and, lastly, to the extreme purity of the water, and the beauty of the scenery around.

## STATISTICS.

The geology, physiognomy, and character of the country, along the eastern base of the Malvern hills, differing, in many particulars, from that lying at the western, I have, in the following statistical details of the district, exhibited the results obtained from the two divisions separately.

*Table* 1.—*Shewing the area and population of the several parishes in each division, the rate of increase in each, and the number of inhabited houses.*

| | | Area in Statute Acres. | Population. | | | | Inhabited Houses. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1801. | 1811. | 1821. | 1831. | 1801. | 1811. | 1821. | 1831. |
| EASTERN DIVISION. | Great Malvern ... | 4340 | 819 | 1205 | 1568 | 2010 | 163 | 204 | 293 | 372 |
| | Little Malvern ... | 550 | 34 | 34 | 67 | 88 | 6 | 8 | 14 | 16 |
| | Hanley Castle..... | 5630 | 986 | 1186 | 1424 | 1653 | 176 | 197 | 256 | 286 |
| | Welland ..... | 2100 | 334 | 391 | 453 | 490 | 64 | 75 | 94 | 109 |
| | Redmarley ..... | 3580 | 689 | 775 | 955 | 1050 | 126 | 152 | 161 | 187 |
| | Leigh & Bransford | 6840 | 1492 | 1533 | 1810 | 2271 | 269 | 301 | 350 | 411 |
| | Madresfield ..... | 920 | 153 | 151 | 202 | 191 | 24 | 35 | 39 | 41 |
| | Newland ..... | 680 | 132 | 133 | 125 | 130 | 20 | 26 | 25 | 25 |
| | Eastern Division... | 24640 | 4639 | 5408 | 6604 | 7883 | 848 | 998 | 1232 | 1447 |
| WESTERN DIVISION. | Ledbury ..... | 8630 | 3058 | 3136 | 3421 | 3909 | 577 | 604 | 636 | 729 |
| | Colwall..... | 3800 | 635 | 665 | 782 | 909 | 111 | 99 | 142 | 161 |
| | Mathon ..... | 3670 | 546 | 618 | 633 | 690 | 89 | 90 | 98 | 116 |
| | Coddington ..... | 1510 | 194 | 208 | 184 | 164 | 28 | 31 | 29 | 34 |
| | Cradley ..... | 6460 | 1317 | 1383 | 1459 | 1509 | 222 | 235 | 254 | 315 |
| | Western Division. | 24070 | 5751 | 6010 | 6479 | 7181 | 1027 | 1059 | 1159 | 1355 |

From the preceding table, it appears that the number of inhabitants in the *whole district*, by the census of 1831, was 15,064; the number of

statute acres 48,710, or 76½ square miles; giving 198 inhabitants to the square mile. The increase in the population is 31 per cent. in the whole 30 years.*

The *western division,* comprising an area of 37 square miles, contained 194 inhabitants to the square mile in 1831. The increase in the population in 30 years, is 20 per cent.

The *eastern division,* comprising an area of 38½ square miles, contained 198 inhabitants to the square mile, in 1831. The increase in the population, in 30 years, being 41 per cent.

The greater increase of the population of the eastern, compared with the western division, in the same period, is, in some measure, attributable to its including the parishes of Great Malvern and Hanley Castle, places much frequented for the purity of the air and water, and for the romantic character of the scenery.

In the former of these two parishes, the increase in the population is 61 per cent. and in the latter 41. If we except them from the calculation, the increase in the eastern division, free from artificial causes, will be found 33 per cent.; a result still indicative of the more rapid increase of population in this, compared with the western division.†

* Thus, substract 10,390, the population of the whole district in 1801, from 15,064, the population in 1831, and adding two 00 to the remainder, divide it by 15064, the quotient will be 31.

† It also appears, from the table, that in 1801 the population of the western division exceeded that of the eastern by 1112; whereas, in 1831, the latter exceeded the former by 602.

*Table 2.—Shewing the number of families in the eastern and western divisions, and in the whole district, in* 1811, 1821, 1831, *with their occupation, as far as can be ascertained from the population returns.*

| | 1811. | | | 1821. | | | 1831. | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fam. employed in | | | Fam. employed in | | | Fam. employed in | | |
| | Agricul. | Trade. | Others. | Agricul. | Trade. | Others. | Agricul. | Trade. | Others. |
| Eastern Division..... | 832 | 176 | 122 | 961 | 269 | 100 | 944 | 350 | 297 |
| Western Division ..... | 675 | 334 | 167 | 750 | 432 | 108 | 631 | 460 | 398 |
| Whole District..... | 1507 | 510 | 289 | 1711 | 701 | 208 | 1575 | 810 | 695 |

Referring to the whole district it appears, from the above table, that there is a decrease of 136 in the number of agricultural families in 1831, compared with 1821. The parliamentary returns shew a similar, though not so great a decrease, throughout Great Britain: a fact surely indicating some undue or unequal pressure upon the agricultural interest of the country. There is no manufacture carried on in the district under consideration; and only such handicraft business as is sufficient for the demands of the resident inhabitants. With an *increasing population*, therefore, a decrease in the number of families employed in agriculture, must be distributed among the little shop-keepers, the beer or public-house keepers, labourers, or paupers.

From the two preceding tables, we find that, in

1831, there were 109 families to every 100 houses,* and not quite 5 persons to each family.

The general habits of the peasantry are very similar, in most respects, to those of their brethren in the other agricultural districts of the kingdom. They are quiet, remarkably civil, and hospitable; living, principally, in little detached cottages, thatched with straw, overrun with the rose and honeysuckle, and surrounded by a garden stocked with apple and pear trees, but too often deficient of comforts within.

Wages seldom, if ever, exceed 8s. or 9s. a week, and in some of the parishes, I believe, they are as low as 7s. with the daily allowance of two or three quarts of a very poor cider, commonly known here under the provincial appellation of family drink.

Throughout the district, nearly all the females are employed in sewing gloves, at which they used to earn considerable sums; but now they seldom get, on an average, more than from 2s. to 3s. or 3s. 6d. a week; the glovers of Worcester, for all the ordinary kinds, not paying more than 2d. or 3d. per pair for the sewing. For the better sorts, such as white kid, and some others, they pay 4d. per

* In large towns the number of families, compared with the number of houses, is greater, as might be expected, than in the rural district of Malvern.

| | | | |
|---|---|---|---|
| In London there are..... | 171 | families to every | 100 houses. |
| Hull ..... | 134 | ..... | 100 ..... |
| Bristol ..... | 131 | ..... | 100 ..... |
| England and Wales... | 117 | ..... | 100 ..... |

pair; these are intrusted to the best hands; and an industrious young woman, capable of undertaking the sewing of these, can, in the summer, earn 6s. and in some instances 7s. per week. This sedentary in-door work is not, altogether, incompatible with the care of a small family, and is, therefore, a great assistance to the poor. Females are not often seen in the fields, performing out-door work: when they do so, their earnings are from 6d. to 8d. a day.

Fuel consists almost entirely of coal, and as this is always drawn in carts from a considerable distance, it becomes a very expensive article; the poor, excepting, perhaps, those residing near the Severn, seldom giving less than from one shilling to fourteen pence the hundred weight, a quantity which, with the greatest economy, lasts about a week during the winter months.

The new beer houses have a prejudicial effect upon the habits of the labouring classes. The labourer himself, before their establishment, could, in this district, generally obtain tolerably good beer or cider; he now sees, on every side, these houses, the resort of the idle and disorderly, and is too frequently tempted into them, where his time and money are expended, while his wife and family are neglected. "To be *drunk* upon the premises," which is now seen in large letters over the door of houses of this description, is rather an awkward mode of expression for such places.

*Table 3.—The number of marriages, baptisms, and deaths, in the under-mentioned parishes, in twelve years; from* 1813 *to* 1816, 1823 *to* 1826, *and* 1830 *to* 1833 *inclusive.*

| | Marria. | Baptisms. | | | Deaths. |
|---|---|---|---|---|---|
| | | Males. | Female. | Both. | |
| Great Malvern ..... | 96 | 255 | 282 | 537 | 371 |
| Little Malvern ..... | 11 | 30 | 24 | 54 | 26 |
| Hanley Castle ..... | 97 | 228 | 201 | 429 | 312 |
| Welland ..... | 28 | 97 | 69 | 166 | 90 |
| Redmarley ..... | 64 | 154 | 162 | 316 | 137 |
| Leigh and Bransford... | 89 | 286 | 294 | 580 | 334 |
| Madresfield ..... | 8 | 63 | 57 | 120 | 29 |
| Newland ..... | 12 | 29 | 28 | 57 | 29 |
| Eastern Division ..... | 405 | 1142 | 1117 | 2259 | 1328 |
| Ledbury ..... | 230 | 662 | 709 | 1371 | 937 |
| Colwall ..... | 47 | 130 | 140 | 270 | 153 |
| Mathon ..... | 44 | 103 | 136 | 239 | 128 |
| Coddington..... | 14 | 23 | 29 | 52 | 54 |
| Cradley ..... | 90 | 259 | 239 | 498 | 350 |
| Western Division ..... | 425 | 1177 | 1253 | 2430 | 1622 |
| Whole District ..... | 830 | 2319 | 2370 | 4689 | 2950 |

The annual proportion of marriages to the population, during the four years from 1830 to 1833, was, in the eastern division, as 1 to 225; and in the western, as 1 to 205.

The annual proportion of marriages in Worcester, during the ten years preceding 1831, was as 1 to 66 of the population in 1831.*

* The annual proportion of marriages to the population, during the five years preceding 1831, was, in England, as 1 in 128: the several counties ranging from 1 in 103, to 1 in 175. The extremes take place in Middlesex and Hertfordshire, or rather, as the above facts shew, *in some cities, and in the rural districts around them.*

One of the evils seriously felt in agricultural districts, is the great

The proportion of baptisms to the population, is, in the eastern division, as 1 in 32; in the western, as 1 in 35; and in the whole district, as 1 in 33. The proportion of deaths to the population, is, in the eastern division, 1 in 65; and in the western, 1 in 49.*

*Table* 4.—*Shewing the actual deaths at all ages, in twelve years—from* 1813 *to* 1816, 1823 *to* 1826, 1830 *to* 1833 *inclusive,—from the registers of the under-mentioned parishes.*

| | Birth to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. | 90 to 100. | 100 to | Total in 12 yrs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Great Malvern ..... | 110 | 28 | 44 | 24 | 14 | 18 | 44 | 44 | 37 | 7 | 1 | 371 |
| Little Malvern ..... | 6 | 0 | 2 | 3 | 2 | 2 | 5 | 4 | 2 | 0 | 0 | 26 |
| Hanley Castle ..... | 90 | 18 | 27 | 24 | 25 | 26 | 33 | 31 | 32 | 5 | 1 | 312 |
| Welland..... | 25 | 5 | 9 | 8 | 5 | 7 | 6 | 11 | 12 | 1 | 1 | 90 |
| Redmarley ..... | 31 | 8 | 12 | 5 | 11 | 13 | 17 | 19 | 19 | 0 | 2 | 137 |
| Leigh and Bransford | 97 | 26 | 27 | 21 | 19 | 25 | 25 | 48 | 33 | 11 | 2 | 334 |
| Madresfield ..... | 11 | 1 | 1 | 0 | 2 | 2 | 3 | 3 | 4 | 2 | 0 | 29 |
| Newland ..... | 5 | 0 | 1 | 4 | 0 | 6 | 5 | 5 | 3 | 0 | 0 | 29 |
| Eastern Division.... | 375 | 86 | 123 | 89 | 78 | 99 | 138 | 165 | 142 | 26 | 7 | 1328 |
| Ledbury ..... | 313 | 66 | 89 | 63 | 58 | 81 | 77 | 109 | 70 | 11 | 0 | 937 |
| Colwall ..... | 42 | 16 | 14 | 9 | 10 | 10 | 20 | 19 | 11 | 2 | 0 | 153 |
| Mathon ..... | 33 | 9 | 13 | 10 | 6 | 8 | 14 | 20 | 13 | 2 | 0 | 128 |
| Coddington ..... | 15 | 8 | 7 | 3 | 1 | 8 | 4 | 4 | 3 | 1 | 0 | 54 |
| Cradley ..... | 110 | 28 | 32 | 20 | 16 | 27 | 43 | 39 | 29 | 6 | 0 | 350 |
| Western Division... | 513 | 127 | 155 | 105 | 91 | 134 | 158 | 191 | 126 | 22 | 0 | 1622 |
| Whole District ..... | 888 | 213 | 278 | 194 | 169 | 233 | 296 | 356 | 268 | 48 | 7 | 2950 |

number of very young married persons with large families of little children, who become chargeable upon the several parishes; and, from the above *facts*, it appears that, in the rural district around the Malvern hills, nearly *one-half* of such marriages are contracted in the neighbouring large towns—principally (perhaps wholly) in Worcester! An evil, surely, calling for notice and correction, because detrimental to the morals of the parties, by facilitating imprudent and secret matches; and burthensome to the parishes on which their children become chargeable.

* The proportion of deaths to the population, in the county of Worcester, is 1 in 54. In England and Wales the proportion, as shewn by the registered mortality, ranges from 1 in 41 to 1 in 64; or, as above, in the eastern division, 1 in 65.

*Table 5.—Shewing the proportion of deaths, at all ages, in the eastern and western divisions, and in the whole district; also at Carlisle, the county of Worcester, Landsend in Cornwall, Glasgow, and St. Petersburgh; the whole deaths being assumed to be* 10,000 *in each place.**

| | Birth to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. | 90to 100. | 100 to |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Eastern Division. | 2824 | 646 | 926 | 670 | 587 | 746 | 1039 | 1242 | 1069 | 196 | 52 |
| Western Division | 3164 | 783 | 956 | 647 | 561 | 826 | 974 | 1178 | 777 | 129 | 0 |
| Whole District... | 3010 | 722 | 942 | 657 | 573 | 790 | 1003 | 1207 | 908 | 162 | 23 |
| Carlisle ..... | 3569 | 384 | 462 | 576 | 671 | 817 | 1244 | 1440 | 730 | 98 | 7 |
| Co. of Worcester | 3937 | 664 | 779 | 638 | 609 | 643 | 906 | 1052 | 669 | 90 | 7 |
| Landsend ..... | 3685 | 551 | 740 | 581 | 640 | 735 | 1050 | 1206 | 725 | 86 | 1 |
| Glasgow ..... | 4224 | 421 | 845 | 952 | 1008 | 888 | 804 | 621 | 203 | 26 | 2 |
| All England ..... | 3906 | 608 | 781 | 675 | 663 | 700 | 915 | 1039 | 624 | 85 | 4 |
| St. Petersburgh... | 3205 | 987 | 1962 | 1365 | 1006 | 621 | 434 | 289 | 100 | 26 | 0 |

From the above table—deduced from the details obtained of the actual deaths at all ages in the several parishes included in table 4—it appears that

* Mr. Villermè, who has laboriously studied the results afforded by the English tables of population, points out the fact that the atmospheric conditions of low marshy districts are very destructive of the lives of young children. In the Isle of Ely, which may be regarded as a specimen of the marshy districts of England, more than one-third of the children born, die before the end of the *second year*, and one-half in the same district die before the end of the *fifteenth year* of their age. Now this statement may be contrasted with the statistical details of a hilly locality, in the eastern division of the Malvern district, one-third of the children born do not die until after the *tenth year*, and one-half do not die until after the *thirtieth year*.—The following table will exhibit this contrast at decennial periods.

*Table shewing the proportion of deaths, at the under-mentioned ages, in the eastern division, and the Isle of Ely.*

| | Birth to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. | 90 to 100. | 100 to |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Eastern Division..... | 2824 | 646 | 926 | 670 | 587 | 746 | 1039 | 1242 | 1069 | 196 | 52 |
| Isle of Ely ..... | 1731 | 597 | 765 | 594 | 596 | 652 | 775 | 834 | 411 | 42 | 3 |

the number of deaths in the eastern division between birth and 10, is smaller than in any other locality which has fallen under my observation. Taking the results of the eastern division (founded upon details collected and calculated by myself from the parish registers of a population of 7883, distributed over an area of $38\frac{1}{2}$ square miles) and comparing them with the result for all England, we obtain the following table of proportional deaths, assuming 100 to die in England between the respective undermentioned ages:—

TABLE 6.

| | Deaths in all England. | Proportional deaths in the Eastern Division. |
|---|---|---|
| Birth to 10 | 100 | 72 |
| 10 to 20 | 100 | 106 |
| 20 to 30 | 100 | 118 |
| 30 to 40 | 100 | 99 |
| 40 to 50 | 100 | 88 |
| 50 to 60 | 100 | 106 |
| 60 to 70 | 100 | 113 |
| 70 to 80 | 100 | 119 |
| 80 to 90 | 100 | 171 |
| 90 to 100 | 100 | 230 |
| 100 upwards | 100 | 1050 |

The number of deaths in the population of the eastern division, between birth and 10, is to the number in all England as 72 to 100; from 10 to 20, where 100 die in all England, 106 die in the eastern division; from 20 to 30, the mortality in the eastern division is 1-8th more than in all England; after the age of 30, the deaths are again less in the eastern division than in England at large up to the age of 50; and the number of persons living to the more advanced ages, in the eastern division goes on increasing, so that where 100 are buried at Carlisle between 80 and 90, 171 will be buried in this divi-

sion; and more than double the number between 90 and 100, to say nothing of those upwards of 100.*

*Table 7.—The law of mortality in the under-mentioned places. The total of births assumed to be* 10,000.

| | Number of persons that will be alive at the under-mentioned ages. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | at 10. | at 20. | at 30. | at 40. | at 50. | at 60. | at 70. | at 80. | at 90. | at 100 |
| Eastern Division.. | 7176 | 6530 | 5604 | 4934 | 4347 | 3601 | 2562 | 1320 | 251 | 55 |
| Western Division. | 6836 | 6053 | 5097 | 4450 | 3889 | 3063 | 2089 | 911 | 139 | 0 |
| Whole District ... | 6990 | 6268 | 5326 | 4669 | 4096 | 3306 | 2303 | 1096 | 188 | 26 |
| Carlisle ..... | 6431 | 6047 | 5585 | 5009 | 4338 | 3521 | 2277 | 837 | 105 | 7 |
| Co. of Worcester.. | 6063 | 5399 | 4620 | 3982 | 3373 | 2730 | 1824 | 772 | 103 | 13 |
| Landsend ..... | 6315 | 5764 | 5024 | 4443 | 3803 | 3068 | 2081 | 812 | 87 | 1 |
| Glasgow ..... | 5776 | 5355 | 4510 | 3558 | 2550 | 1662 | 858 | 237 | 34 | 8 |
| All England ..... | 6094 | 5486 | 4705 | 4030 | 3367 | 2667 | 1752 | 713 | 89 | 4 |
| St. Petersburgh ... | 6795 | 5808 | 3846 | 2481 | 1475 | 854 | 420 | 131 | 31 | 0 |

In this table, calculated from table 5, the results before stated, are more clearly shewn; thus in 10,000 births, the number of persons reaching their 10th year is much greater in the eastern division, than in any of the other places mentioned; after that age the numbers alive decrease more rapidly (the comparison being still with all England,) until the age of 40; after 40, the number living gradually increases from the decreasing deaths in the eastern

* Of 3,938,496 persons buried in England and Wales, 252,811 were between the ages of 80 and 90, which is in the proportion of 86 to 1328; and 35,790 were between 90 and 100, which is in the proportion of 12 to 1328. By referring to table 4, it will be seen how much these numbers are exceeded in the eastern division—1328 being the total deaths; 142 the number of deaths between 80 and 90, and 26 the number between 90 and 100. From the parliamentary returns, also, it appears that one centenarian death (i. e. one who has attained to 100 and upwards) is found in 2,073 other deaths in England and Wales, so that making every possible allowance for any accidental coincidence, table 4 shews how greatly this number is exceeded in the eastern division.

division ; at 80, nearly double the number are living in the eastern division than in all England ; and at 90, almost three times the number, to omit as before the proportion at the very advanced age of 100 and upwards.

*Table* 8.—*Shewing the number of persons who would be alive, in the eastern division, at the respective undermentioned ages, supposing* 100 *to be alive, at the ages indicated, in all England.*

| | Alive in Carlisle. | Proportional number alive in the Eastern Division. |
|---|---|---|
| At 10 | 100 | 117 |
| ... 20 | 100 | 119 |
| ... 30 | 100 | 119 |
| ... 40 | 100 | 122 |
| ... 50 | 100 | 129 |
| ... 60 | 100 | 135 |
| ... 70 | 100 | 146 |
| ... 80 | 100 | 185 |
| ... 90 | 100 | 280 |
| ... 100 | 100 | 1375 |

From the two foregoing tables we may conclude that among those who, in the eastern division, live to attain their 10th year, are many persons whose constitutions are delicate and susceptible, and who die before they reach their 20th or 30th year. After 30, the constitutions of the inhabitants of the eastern division become, as it were, established ; they have surmounted the vicissitudes incidental to the early period of adult life, and the rate of mortality, as compared with all England, greatly diminishes. The general results of the foregoing tables may be thus stated :—the number of persons who die under 10 years old, is very much less in the eastern division of the district around Malvern, than in any other locality with which I am acquainted ; between the ages of 10 and 30, the number who die is greater ;

after 40, a great many more persons attain the advanced ages in the Malvern locality, than in the rest of England.*

*Diseases.*—It is not the object of the present communication to embrace a minute account of the diseases prevalent in the district. The following is a classification of those diseases treated in the practice of the Malvern Dispensary, during a period of four years (from 1830 to 1834). The benefits of this institution are conferred upon poor persons, not entitled to parish relief, in Great Malvern and the adjacent parishes, both in the western and eastern divisions. Omitting all surgical diseases, and complaints of a local or very trivial nature, there were admitted in this period—

| | |
|---|---|
| Diseases of the organs of digestion | 153 |
| ..... respiration | 179 |
| ..... circulation | 7 |
| ..... of the brain and nervous system | 47 |
| ..... urinary organs | 2 |
| ..... generative organs | 42 |
| Febrile diseases | 64 |
| Rheumatic | 28 |
| Dropsical | 11 |
| Cutaneous | 45 |
| Total | 578 |

* I have ascertained that the number of persons now (Jan. 1835,) resident in Great Malvern, and who are 70 years of age and upwards, is sixty; of these about 12 or 14 persons have not resided in the parish more than 12 or 14 years, so that subtracting these, the number which may be taken to represent those born in the parish, may be estimated at between 46 and 50.

By a reference to the parish register I find that the number of baptisms in the 10 years from 1755 to 1764 inclusive, was 192; now if 10,000 births (*vide table* 7) give 2562 persons alive at 70, 192 births will give 49, thus shewing that in the parish of Great Malvern, the actual numbers do not vary much from the results shewn in the tabular details.

The diseases of the organs of digestion include cases of dyspepsia, and other functional derangements, as well as the more important ones of enteritis and peritonitis: the numbers, therefore, although large, do not include a majority of dangerous complaints. The diseases of the organs of respiration embrace the greatest number of important cases, phthysis and inflammatory complaints of the chest being often prevalent throughout the district: that they are frequently fatal in the early periods of life, will be seen by the following account of the deaths occurring in the four years previously stated:

| | | No. of deaths. | Respective ages. |
|---|---|---|---|
| Diseases of the organs of digestion | Diarrhœa | 1 | 1 year. |
| | Enteritis & Peritonitis | 3 | 1, 3, 68. |
| | Scirrhous pylorus | 1 | 73. |
| | Hepatitis | 1 | 70. |
| | Aphtha | 1 | 1-12th. |
| Diseases of the organs of respiration | Phthysis | 7 | 18, 22, 23, 24, 25, 32, 36. |
| | Pneumonia & Pleuritis | 4 | $\frac{3}{4}$, 3, 18, 19. |
| | Bronchitis | 1 | 60. |
| | Influenza | 1 | 60. |
| Dis. of the brain and nervous system | Meningitis & Hydrocephalus acutus | 3 | 13, 13, 16. |
| | Epilepsia | 1 | 40. |
| Diseases of the generative org. | Morbus uteri | 1 | 30. |
| Dropsical effusions | Hydrothorax | 1 | 73. |
| | Asthma and Anasarca | 1 | 54. |
| | Anasarca | 1 | 60. |
| Cutaneous and febrile dis. | Variola | 1 | 7. |
| | Scarlatina | 1 | $2\frac{1}{2}$. |
| | Synochus | 3 | 15, 16, 50. |
| | Total | 33 | |

In the foregoing tabular statement the great majority of deaths in the earlier periods of life, from phthysis and inflammation of the pulmonary structures, is strongly marked, one-third of the whole number, or 11 dying of these complaints between

the ages of 1 year and 32, and 3 more from acute inflammatory disease of the brain and its meninges between the ages of 13 and 16. The results are exhibited in the following table:

| Number of persons at the following respective ages dying in the practice of the Malvern Dispensary, in four years.* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Birth to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. |
| 8 | 8 | 4 | 4 | 1 | 4 | 1 | 3 | 0 |

Bronchocele is common in Worcestershire, and many cases are witnessed in the district around Malvern. In some females the diseased gland grows to a large size without producing any, or only trifling inconvenience—a little difficulty of breathing in walking up hill. Persons afflicted with this unsightly complaint, are chiefly, but not universally, females: in one or two instances I have observed male children born with a decided fullness and enlargement of the thyroid gland. Very few of the common people use any remedy for it.

Bronchocele is not confined to the peasantry, a tendency to the disease often shewing itself in young females in the middle and higher classes: these generally, have recourse to medical treatment. Iodine, given internally, and used externally in the form of ointment, usually reduces the incipient enlargement: it is, however, liable to recur.

* This table embraces too short a period to afford more than a corroboration of the previous statistical results. I may state that, occasionally, *very young children*, and, I believe, often *very old people*, die, medical assistance never having been asked for them.

It is very difficult to ascertain the causes producing bronchocele. Of 22 cases which I examined a few years ago, some lived in situations where the water was hard; others where it was soft; some lived very well, *i. e.* animal food daily; others chiefly on potatoes and bacon, the ordinary food of the labouring classes. In a great majority, the right lobe of the gland was the largest, and there was no appearance of scrofulous disease. In females of the same family, more than one generally had the disease. Bronchocele almost invariably increases in size and becomes more troublesome during gestation; and, in many instances, remains, after delivery, permanently of a larger size than before. It has been supposed that the offspring of parents afflicted with this complaint, evince more or less deficiency in their intellectual endowments: in one or two of the cases alluded to above, this was the case, but not generally.*

* I have the details of a very singular case of this disease, in an unmarried female of delicate constitution, aged 37. The gland had been enlarged for fifteen years, and various remedies tried with considerable but temporary relief. For about two years the breathing had been more or less affected, the respiration being accompanied with a harsh, sonorous, dry rale, and short frequent cough. On the *left side* of the trachea was a firm rounded tumour; and on the *right side* was another, less prominent: to the former, all the distress, which was occasionally very great, was referred. Great relief was experienced, when the difficulty of breathing came on, by pushing aside the tumour from the trachea by the finger. When the finger was removed, the rale, distress, and cough returned; but, after some time, slowly went off. Through this tumour a seton was passed: leeches, and cold lotions, were also had recourse to; but debility and loss of appetite slowly increased; and the patient, one evening, being suddenly seized with difficult respiration, which nothing would relieve, died in about five hours (perfectly sensible to the last moment) apparently of suffocation.

The appearances, on dissection, were highly interesting. The left portion of the thyroid, through which the seton had passed, and to which the principal attention had been directed, extended from the ramus of the jaw to the clavicle: the upper edge of the right tumour commenced just below the larynx, and between the two tumours the trachea was very much compressed. This tumour on the right side was found to be only the superior portion of a very much enlarged thyroid gland, which extended completely into the chest behind the first rib, and, altogether, as large as two closed fists, four-fifths of it being in the cavity of the chest. It was divided into two portions by a groove or sulcus, in which lay the arteria innominata, pushed outwards towards the clavicle. The common carotid was displaced laterally, nearly two inches from the trachea; and the subclavian artery very much elevated above the clavicle and first rib. The par vagum passed over the subclavian artery, but the base of the tumour was engaged in the loop of the ramus recurrens; this loop, instead of being closely in contact with the artery, passed round the bottom of the tumour, which was, at the least, two inches and a half below; consequently, both the par vagum and the recurrent branch were very much stretched and elongated. The nervus vagus was redder than on the other side, but there did not appear any material alteration in its size; the recurrent branch, on the other hand, was smaller, and was almost dissipated in a few minute filamentous threads, which could hardly be traced to the larynx.

I forbear making any remark upon this singular and interesting case. Whether death occurred from mechanical pressure upon the trachea, or from paralysis of the recurrent nerve, or from the joint effect of the two, I do not venture to determine.

## APPENDIX No. I.

### A LIST OF THE RARER PLANTS INDIGENOUS IN THE DISTRICT.

*Veronica scutellata.*—At the western base of the Worcestershire Beacon, and by ponds at Malvern.

——— *montana.*—Several places on the hills.

*Pinguicula vulgaris.*—In the bog at the south-west of the Worcestershire Beacon.

*Valeriana diöica.*—Frequent in the moist coppices.

*Eleocharis acicularis.*—In the bog at the base of the Worcestershire Beacon.

*Eriophorum polystachion.*—In the bog at the base of the Worcestershire Beacon.

*Poa nemoralis.*—In the wood near the Well House, Malvern, &c.

*Nardus stricta.*—Abundant on the hills

*Phalaris arundinacea.*—Near the Spa, Great Malvern.

*Aira flexuosa.*—Rocks on the hills.

—— *caryophyllea.*—Abundant on the hills.

*Holcus mollis.*—North end of the hills.

*Festuca sylvatica.*—Very common.

*Montia fontana.*—In the rills on the hills; and in the dryest places much altered in habit.

*Dipsacus pilosus.*—In the lane below Malvern church.

*Potamogeton natans.*—Ponds about Malvern.

*Mœnchia erecta.*—Frequent on the hills.

*Myosotis versicolor.*—Common on the hills.

*Lythospermum officinale*—On the walls at Little Malvern Church, &c.

*Primula elatior.*—In the pastures about Malvern.

——— *vulgaris.*—(The stalked variety) ditto.

*Viola hirta.*—In a lane at Colwall abundantly, Cowley Park, &c.

*Anagallis tenella.*—In the bog at the western base of the Worcestershire Beacon.

*Campanula patula.*—In the lanes below Malvern.
——— *latifolia.*—In a coppice below the Chalybeate Spa.
*Hyoscyamus niger.*—In gravelly places about Malvern.
*Euonymus europeus.*—In the hedge-rows at Malvern and Cradley.
*Ulmus montana.*—Frequent.
*Pimpinella saxifraga.*—On Malvern Common.
*Angelica sylvestris.*—In the boggy coppice near the Chalybeate.
*Beupleurum tennuissimum.*—At Barnard's Green, on the right of the road below Garford Court.
*Torrilis infesta.*—Corn fields below Great Malvern.
*Drosera rotundifolia.*—In the bog at the western base of the Worcestershire Beacon.
*Galanthus nivalis.*—In a field near the turnpike at Little Malvern; and certainly wild near the Wintal Farm, Cradley.
*Juncus uliginosus.*
*Luciola Fosteri.*—In a coppice near the Well House.
*Triglochin palustre.*
*Colchicum autumnale.*—Very common.
*Chlora perfoliata.*—On the calcareous strata of Cradley, Leigh, &c.
*Polygonum Bistorta.*—In a field near the Chalybeate Spa, and Cowleigh.
*Paris quadrifolia.*—In the coppice near the Chalybeate Spa.
*Chrysosplenium alternifolium.*—Abundant in the brooks at Mathon and Cradley.
*Scleranthus annuus.*—On dry sandy places on the hills.
*Cotyledon umbilicus.*—On almost all the rocks.
*Saxifraga tridactylites.*—On walls and the roofs of cottages.
*Sedum Telephium.*—Among the rocks on the north hill; a common weed in a field behind Norris Farm, at Leigh.
——— *acre.*—On the rocks on the hill.
——— *reflexum.*—Ditto.
*Spergula arvensis.*—Rather common.
——— *nodosa.*—Common.
*Thalictrum flavum.*—At the Rhydd.

*Reseda Luteola.*—By the sides of the road, common.
——— *lutea.*—Ditto.
*Rosa tomentosa.*—Cowley Park, Malvern.—Dr. Hastings.
—— *micrantha.*—Near Little Malvern. Ditto.
—— *Borreri.*—Woods near Malvern. Ditto.
—— *arvensis.*—In the hedge-rows, frequent.
*Potentilla argentea.*—On the rocks on the north hill, and elsewhere sparingly.
——— *verna.*—On the right of the turnpike road ascending towards the Herefordshire Beacon.
*Ranunculus parviflorus.*—Abundant in several places.
*Nepeta cataria.*—Near the turnpike, by the entrance to Eastnor Castle.
*Mentha piperita.*—In ditches at Malvern Link, Colwall, and other places sparingly.
*Mentha Pulegium.*—On the common by the road-side at Barnard's Green.
*Thymus Calamintha.*—On the hills.
*Scutellaria galericulata.*—On a hedge-bank at Barnard's Green.
*Lathræa squamaria.*—Upon the roots of the ulmus montana, at the Lodge, Great Malvern.
*Antirrhinum Cymbalaria.*—On old walls about Great Malvern.
——— *majus.*—On old walls at Great Malvern.
*Digitalis purpurea.*—Very abundantly.
*Cardamine impatiens.*—Very abundantly.
*Erodium cicutarium.*—Near the turnpike by the entrance to Eastnor Castle
*Geranium lucidum.*—Abundantly.
——— *phœum.*—By the side of a watery lane beyond the Hales-end, Cradley.
*Malva rotundifolia.*—Common in Great Malvern.
——— *moschata.*—Abundantly in the hedge-banks.
*Fumaria capreolata.*—Abundantly about the hills.
——— *claviculata.*—Abundant among the loose stones on the hill.
*Anthyllis vulneraria.*—Cradley, &c.

*Lathyrus Nissolia.*—In the hedges about Madresfield.
*Vicia sylvatica.*—Luxuriantly in a wood by Hall Court, Mathon.
*Vicia angustifolia.*—Near the Well House.
*Ornithopus perpusillus.*—Common on the hills.
*Astragalus glycyphyllos.*—At Mathon, &c.
*Trifolium ochroleucum.*—Ditto, &c.
——— *arvense.*—Ditto, Leigh.
*Hypericum calycinum.*—Coppice near Little Malvern church.
——— *Androscæmum.*—Near Little Malvern church, and in the parish of Leigh.
——— *quadrangulum.*—Frequent about Malvern.
——— *dubium.*—Ditto.
——— *humifusum.*—Ditto.
——— *montanum.*—Ditto.
——— *hirsutum.*—Ditto.
*Serratula tinctoria.*—On a hedge-bank at Sherrard's Green, Great Malvern.
*Carduus acanthoides.*—Abundant on the hills.
*Cnicus eriophorus.*—On the hills and on the side of the road towards Ledbury.
*Carlina vulgaris.*—Common on the hills.
*Senecio lividus.*—In waste dry places in Great Malvern.
*Orchis bifolia.*—In Cowley Park, Cradley, and near Eastnor Castle.
——— *pyramidalis.*—At Mathon.
——— *viridis.*—On the limestone strata in Mathon, Cradley, &c.
——— *conopsea.*—Ditto.
*Ophrys apifera.*—At Cradley, Leigh, &c.
*Epipactis latifolia.*—In Cowley Park, and other places.
*Euphorbia Characias*
*Carex pulicaris.*—Bog at the east base of the Worcestershire Beacon.
—— *stellulata.*—Ditto.
—— *remota.*—Coppice near the spa.
—— *pendula.*—Ditto.
—— *Œderi.*—Moist places on the hill.

*Polypodium Dryopteris.*—In the stony places at the End Hill.
——— *calcareum.*—With the above.
*Aspidium Oreopteris.*—In several localities on the hills.
——— *aculeatum*—In the lane below the church abundantly.
——— *angulare.*—Ditto
——— *lobatum.*—In the shady lanes of Mathon, Cradley, &c.
——— *spinulosum.*—In the woods and coppices of Mathon, Cradley, &c.
——— *dilatatum.*—Ditto
——— *Filix fœmina.*—Abundantly in various places.
——— *irriguum.*—Ditto.
*Asplenium Adiantum-nigrum.*—Abundantly.
*Scolopendrium Ceterach.*—On a walk, and on the abbey church, Great Malvern.
*Blechnum boreale.*—In the bog at the western base of the Worcestershire Beacon, and other places.
*Equisetum fluviatile.*—In the coppice near the Chalybeate Spa, Great Malvern.
*Aquilegia vulgaris.*—In Cowleigh Park.

### MOSSES GROWING ON THE MALVERN HILLS.*

*Phascum* crispum.
*Gymnostomum* pyriforme.
*Anictangium* ciliatum.
*Polytrichum* undulatum.
— piliferum—commune.
— urnigerum—alöides.
*Tortula* muralis—ruralis.
— subulata—fallax—revoluta.
*Grimmia* pulvinata—ovata.
*Weissia* cirrhata—crispula—controversa.
*Dicranum* cerviculatum–Starkii–Scottianum–adiantoides
*Trichostomum* lanuginosum—heterostichum — polyphyllum.
*Didymodon* purpureus.
*Funaria* hygrometrica.
*Orthotrichum* affine—diaphanum—crispum.
*Anomodon* curtipendulum—viticulosum.
*Bartramia* pomiformis—fontana—ithyphylla.
*Hypnum* trichomanoides—complanatum–denticulatum

* For this list of cryptogamous plants I am indebted to two very accomplished young ladies, whose botanical acquirements would do credit to a professor of the science.

*Hypnum* medium—serpens—purum—sericeum—lutescens—albicans—alopecurum—dendroides—myosuroides—splendens—proliferum—prælongum—ruscifolium—striatum—confertum—cuspidatum—stellatum—triquetrum—brevirostre—squarrosum—palustre—uncinatum—commutatum—cupressiforme—molluscum.
*Bryum* palustre—capillare—cæspititium—punctatum—argenteum.

HEPATICÆ.

*Anthoceros* punctatus.
*Targionia* hypophylla.
*Marchantia* polymorpha—conica.
*Jungermannia* asplenioides—epiphylla—platyphylla—tomentella—Mackaii—dilatata—Tamarisci—complanata.

LICHENES.

*Alectoria* jubata.
*Borrera* ciliaris—tenella.
*Bœomyces* roseus.
*Calicium* furfuraceum–debile.
*Cladonia* rangeriferina-furcata
*Collema* crispum–granulatum—tenuissimum.
*Cornicularia* aculeata.
*Evernia* prunastri.
*Isidium* corallinum.
*Lecanora* atra—Parella—tartarea.
*Lecidea* geographica—vernalis—icmadophila.
*Opegrapha* scripta.
*Parmelia* caperata—saxatilis—omphalodes—perlata—olivacea—pulverulenta—parietina.
*Peltidea* canina—rufescens.
*Placodium* canescens.
*Ramalina* fraxinea–fastigiata—farinacea.
*Scyphophorus* pyxidatus—radiatus—gracilis—cocciferus
*Sphærophoron* compressum.
*Squamaria* hypnorum—saxicola.
*Sticta* scrobiculata–fuliginosa
*Umbilicaria* pustulata.
*Usnea* florida.

## APPENDIX No. 2.

The measurement of the height of hills or mountains, by the barometer, is an operation of great nicety; and the results can only be considered as very rough approximations, unless all the corrections, including those for the moisture and temperature of the air, are duly attended to. Ever since the

celebrated and important experiment of Torricelli, the attention of some of the philosophers has been drawn, in succession, to this interesting problem; and the difficulty of estimating the quantity and effects of aqueous vapour, has hitherto been one of the chief obstacles to the attainment of accuracy. Daniell's hygrometer is, perhaps, better calculated than any other instrument, to remove this obstacle. This hygrometer was used in the measurement of the height of the Worcestershire Beacon, which has been deduced according to the formulæ of Maskelyne, Hutton, and Daniell, from the following preliminary observations made by myself.*

* These formulæ will be found detailed in the first volume of the *Analyst*, p. 396; in the *Annals of Philosophy*, vol. 13, p. 302; and in *Daniell's Meteorological Essays*, p. 183. We subjoin the directions given by the latter author, and their application.

1. Observe the heights of the barometer at the top and bottom of any elevation, and the heights of the attached thermometers. Observe, also, the temperature of the air in the shade at the two stations, by a detached thermometer; the dew-point must also be accurately taken at the upper and lower situation: these observations being made as nearly as possible at the same time.

2. Reduce the heights of the barometer observed at the top and bottom of the station, for the expansion of mercury and the mean dilatation of the tube (found by the table) at the temperatures observed by means of the attached thermometer, at the two stations.

3. Take the difference of the common logarithms of the two heights of the barometer, (so corrected) considering the first four figures as whole numbers, which will give an approximate height in fathoms.

4. Find the mean of the two temperatures observed by the detached thermometer, in the shade, at the upper and lower station, and (referring to the table) note the expansion of air due to this mean temperature.

5. Find the expansion of air for vapour at these two observed points, (by the table) and taking the mean, add it to the expansion due for temperature.

6. Then as 1.0000 *plus* the total expansion for temperature and vapour thus found, is to 1.0000, so is 1.0000 to the specific gravity of the air corrected for the expansion of temperature and vapour.

7. Find (by the table) the increase of density in the air for the two observed dew-points, and taking the mean, add it to the specific gravity of the air corrected for expansion, which will give the *correct specific gravity of the air*.

*Preliminary observations made with the same barometer, at both stations, May 30th, 1834.—First series.*

| Library House, or Lower station. | Baro. | Attach. Therm. | Detach. Therm. | Hyg | Time. | Wind. | Weather. |
|---|---|---|---|---|---|---|---|
| Setting out... | 29.705 | 65.0 | 61.0 | 55.0 | 5 30p.m. | Light, E. | Very fine, some detached clouds moving from the N. W. |
| Return ..... | 29.700 | 63.0 | 57.0 | 52.0 | 7 20p.m. | Ditto. | |
| Mean ..... | 29.7025 | 64.0 | 59.0 | 53.5 | 6 25p.m. | | |
| Summit of the Beacon. | 28.700 | 53.0 | 53.0 | 48.0 | 6 45p.m. | Very high E. | Less cloud, otherwise as above. |

8. As this correct specific gravity is to 1.00000 (the standard) so is the approximate height (3) to the correct height.*

Details of the above formula, taking the *second series* of observations as data.

1. Mean of barometer at lower station..... 29.543
   Barometer at the upper station ..... 28.550
2. Subtract for the expansion of mercury at 65°. —.083
   Subtract for expansion of mercury at 58° ..... .057
   29.460 — 28.493

Logarithms.

3. 29.460 ..... 4692.327 — Difference, 144.945 fathoms.
   28.493 ..... 4547.382 — 6

   Approximate height in feet ..... 869.670

4. Lower station, temperature of the air 65.0 ..... Dew-point 58.5
   Upper ditto, ditto ..... 58.0 ..... Ditto..... 52.0
   Mean ..... 61.5
   Expansion of air for temperature... 61° (per table) ..... .06041
5. Ditto for vapour ..... 58° (ditto) .01633
   Ditto ditto ..... 52° (ditto) .01336
   Mean ..... .01484
   Total expansion..... .07525
6. Then, 1.07525 : 1.00000 : : 1.0000 .93002
7. Increase of density of air for vapour at 58°—.01051
   Ditto ..... 52°—.00864
   Mean ..... .00958
   Correct specific gravity of the air ... .93960
8. And, .93960 : 1.0000 : : 1.00000 : 925.5 the height in feet.

* The tables referred to above, will be found in *Daniell's Meteorological Essays*, second edition, viz.: that for the *expansion of mercury, and the mean dilatation of glass*, p. 372; *table of expansion of air for temperature and vapour*, p. 177; *table of increase of density of air for vapour*, p. 177.

*Ditto, August 9th*, 1834.—*Second series.*

| Lower station. | Baro. | Attach. Therm. | Detach. Therm. | Hyg | Time. | Wind. | Weather. |
|---|---|---|---|---|---|---|---|
| Going up..... | 29.542 | 67.0 | 66.5 | 59.0 | 6 p. m. | North. | Cloudy, fine. |
| Return ..... | 29.545 | 64.0 | 64.0 | 58.0 | 8 p. m. | N. W. | Ditto. |
| Mean ..... .. | 29.543 | 65.5 | 65.2 | 58.5 | 7 p. m. | | |
| Summit of the Beacon. | 28.550 | 58.0 | 58.0 | 52.0 | 7 10p.m. | High NW. | Clouds moving from the east. |

The barometer employed was that described at p. 16 of the preceding communication; and by using the same instrument at both stations, any correction for capillary depression is rendered unnecessary.

In the following preliminary observations a different barometer, carefully boiled, measured and adjusted, was used at the summit of the beacon, the bore of the tube being .150 in. in diameter, so that here the correction for capillarity must not be overlooked.

*August 5th*, 1834.—*Third series.*

| Lower station. | Baro. | Diam. of the bore | Attach. Therm. | Detach. Therm. | Hyg | Time. | Wind. | Weather. |
|---|---|---|---|---|---|---|---|---|
| Setting out... | 29.331 | .250 | 67.0 | 62.0 | 58.0 | 5 40p.m. | Westerly, moderate. | Dark heavy clouds. |
| Return ..... | 29.325 | — | 65.0 | 62.0 | 60.0 | 7 30p.m. | Westerly, light. | Cloudy, fine. |
| Mean ..... | 29.328 | — | 66.0 | 62.0 | 59.0 | 6 35p.m. | | |
| Summit of the Beacon. | 28.300 | .150 | 58.0 | 58.0 | 57.0 | 6 30p.m. | High s. w. | Light, shower, lower clouds just over head, dark cloudy. |

*The following is a tabular view of the results.—Height of the Worcestershire Beacon, above the Library.*

| | Deduced by Maskelyne's formula. | Deduced by Hutton's formula. | Deduced by Daniell's formula. |
|---|---|---|---|
| First series of observations. | 921.0 | 910.8 | 924.0 |
| Second ditto ..... | 934.5 | 927.8 | 925.5 |
| Third ditto ..... | ..... | ..... | 917.0 |
| Means ..... | 927.7 | 919.3 | 922.1 |

Mean of all—923 feet, the height of the Worcestershire Beacon above the Library at Great Malvern.

## APPENDIX No. 3.

### ANALYSIS OF THE MALVERN WATER.

The water of St. Ann's Well varies in its temperature from 47° to 49°. That of the Holy Well, as it falls from the spout in the pump-room, is about 49° or 49.5: being conducted from the source to the pump-room by a short pipe, it is more liable to be influenced by atmospheric changes than the water at Great Malvern.

The alkoholic solution of soap, muriate of barytes, nitrate of silver, and the other usual tests for the muriates and sulphates, produce hardly a perceptible change, and sometimes none at all, in either of these two waters. After a long period of dry weather, the nitrate of silver will cause a light whitish cloud of the muriate.

The great purity of the Malvern water may be inferred from the above test, and from the common remark that it never curdles soap; that it forms a clear solution with the subacetate of lead, and redissolves the earthy deposit so often formed in tea kettles which have been used to boil the usual hard spring waters in.

Forty fluid ounces, of the water from St. Ann's Well, were evaporated very slowly, to about three, in an open Wedgewood-ware dish, and then transferred into a shallow glass vessel, being still clear and transparent. The whole of the fluid being slowly driven off, there remained a brownish film, which, when carefully scraped together, weighed very nearly one grain: it deliquesced after a short exposure to the air.

Thirty-two fluid ounces were, on another occasion, subjected in the same manner to slow evaporation, and the solid residue weighed three-fourths of a grain.

The solid contents, therefore, of a gallon of the pure Malvern water do not amount to more than three grains. Various other experiments and evaporations (detailed in the *Dissertation on the Malvern Waters*, second edition, p. 217)

were made at the same time, indicating that these three grains consisted of muriate of magnesia, muriate of soda, sulphate of magnesia, and sulphate of lime, with a little silicious matter.

The carbonic acid could not be detected, not did any of the earthy carbonates appear to be present. Three-fourths of a cubic inch of atmospheric air was given off from a quart of the water. Thermometer 50°, barometer 29.900.*

That a water of such extreme purity should be serviceable in many weak and delicate constitutions, is not at all surprising; indeed, daily experience confirms the testimony it has long enjoyed, particularly in scrofulous cases, some eruptive diseases, and in habits where the urine is prone to the formation of acid, alkaline, or earthy deposits.

* For a more particular account of the analysis of the pure Malvern water, the reader is referred to the *Dissertation* above noticed.

ARTICLE IV.

# SKETCH OF THE MEDICAL TOPOGRAPHY

OF THE

# HUNDRED OF PENWITH,

COMPRISING

# THE DISTRICT OF THE LANDSEND,

IN CORNWALL.

BY JOHN FORBES, M.D. F.R.S.

*Physician to the Chichester Infirmary; Honorary Member of the Cambridge Philosophical Society, the Royal Geological Society of Cornwall, the Portsmouth Philosophical Society, &c.; and Physician in Ordinary to His Royal Highness the Duke of Cambridge.*

[CONTINUED FROM VOL. II. P. 131.]

## CHAP. II.—MEDICAL HISTORY OF THE INHABITANTS.

THE very imperfect account which I am now about to give of the diseases that affect the inhabitants of the Landsend, is derived from the following sources:

1. My own observation and personal inquiries among all classes of persons, during the period of my residence in Cornwall.

2. The answers returned to a series of questions addressed by me to all the medical practitioners in the district. (See Appendix No. V.)

3. Communications from different individuals, chiefly of the medical profession, to more specific inquiries respecting particular diseases, their nature, cause, &c.

4. A series of printed Annual Reports of the Penzance Dispensary, extending over a period of seventeen years.

5. The mortuary registers of certain parishes in which the names of the diseases are partially recorded.

6. The published works on the topography and history of Cornwall.

The plan which I had intended to pursue, in the chapter devoted to the exposition of the results thus obtained, was as follows:—I proposed to divide it into two parts, giving, in the first, a general account of the diseases, under their respective names, as they affect all classes of the community; and, under the second, an account of the diseases of particular classes, more especially of the class of miners, the only one which, in this district, presents any striking peculiarities in the habits of life of the individuals composing it, and in the diseases with which they are affected.

In the first part it was my intention—

1. To give, in tables, the results obtained from all the sources of information which admitted of this mode of display.

2. Taking these tables as the groundwork of my narrative, to exhibit, in detail, and in their various

relations, all the diseases found in the district, and as they affect, generally, all classes, or particular classes of the inhabitants; to trace their locality,—general and local causes,—relative degree of prevalence, as well in regard to the same diseases in other districts, as to other diseases in the same district,—particular forms, and, if modified, the causes of this modification,—modes of treatment, with particular reference to local modes, and the result; &c. &c.

In noticing the various diseases, it would, I conceived, be found most useful to arrange them in groups, having more relation to their etiological than to their pathological characters, with a view to attaining, what I stated, in the beginning of this paper, to be the great object of Medical Topography, viz. "the tracing the causes of diseases, with a view to their prevention." With this view, diseases might be very variously arranged. I had thought of some such order as the following:—

1. *Epidemic diseases,* divisible into two principal groups, viz. such as seem to depend on a specific contagion; and such as seem to originate in more general causes, whether of known or unknown nature.

2. *Climatorial diseases,* or such as seem to depend for their origin, degree of prevalence, or modification of character, on the external influences more or less directly flowing from the peculiar nature of the climate, atmosphere, weather, &c.

3. *Endemic diseases,* also divisible into two principal groups, viz. such as seem to originate in natural or external causes, known or unknown, and

more or less peculiar to the district; and such as can be traced to some circumstances in the habits, manners, customs, or other civil relations of the inhabitants.

4. *Contingent or Generic diseases,* or diseases of a chronic kind, not coming strictly under any of the foregoing heads, being found more or less in all countries, and among all classes of men; and which may or may not be modified by the circumstances existing in any particular district. This class might also be divided into two groups, viz. such as originate in causes which are either known or supposed to be known, and such as can be traced to no such causes.

It is sufficiently obvious that neither the foregoing, nor any other arrangement of diseases, can be very accurate, as many of the diseases may be properly placed in more than one class, according to the point of view in which they are regarded: all that is aimed at or expected, is the establishment of some broad lines whereby the observer or inquirer may have his views somewhat circumscribed and directed, and the great object thus more easily attained.

In the second part of this chapter, I intended to notice, in a more particular manner, the health and diseases of the different classes of inhabitants, as set forth in the first part of this memoir, and particularly of the class of miners. It was my purpose to enter fully into this very important subject, not without hopes of being able to found, on such an exposition of the nature and causes of the diseases

of this very intelligent and interesting class of men as it might be in my power to give, a system of hygienic discipline, which, if adopted, might tend, at least, to mitigate, if not effectually to lessen, the frightful suffering and premature decay of which they are the victims.

In conclusion, I contemplated entering upon the examination of the influence of the peculiar climate of the Landsend, on health and disease generally; and, particularly, of its advantages and disadvantages as a winter residence for persons predisposed to, or labouring under, phthisis and other diseases of the chest.

The following pages must be considered as a very rude and imperfect outline of only a part of the plan now sketched out. It is unnecessary to trouble the reader with the reasons why it is presented to him in so unfinished a form: I may, however, be allowed to state that they are of such a nature as at once to justify me in committing my paper to the press in its present shape, and in soliciting the reader's candid and kind consideration of it.

## SECT. I.—OF THE DISEASES OF THE INHABITANTS GENERALLY.

### ART. I.—TABULAR VIEWS OF DISEASES.

*Table A.—General abstract of the Medical Reports of the Penzance Dispensary, during a period of seventeen years.*

| Classes of diseases. | Individual diseases. | Three yrs. 1810 to 1812. | Three yrs. 1819 to 1821. | Eleven yrs. 1823 to 1833. | Total diseas. in 17 years. | Total diseas. in each class. |
|---|---|---|---|---|---|---|
| I. Diseases of the brain and nervous system. | Apoplexy | 6 | 4 | 2 | 94 | |
| | Paralysis | | 9 | 73 | | |
| | Convulsions | ... | *9 | 18 | 27 | |
| | Epilepsy | 21 | 16 | 57 | 94 | |
| | Hydrocephalus | 3 | 8 | 7 | 18 | |
| | Hysteria | 23 | 2 | 95 | 120 | |
| | Mania | ... | 4 | 9 | 13 | |
| | Cephalalgia | 17 | 16 | 99 | 132 | |
| | Obstipatio lateralis (Sauv.) | ... | 1 | ... | 1 | |
| | Spasm | ... | 1 | 1 | 2 | |
| | Tetanus | 1 | †1 | ... | 2 | |
| | Chorea | 5 | ... | 6 | 11 | |
| | Nyctalopia | ... | 1 | ... | 1 | |
| | Delirium tremens | ... | ... | 3 | 3 | |
| | Vertigo | ... | 1 | 4 | 5 | |
| | Delirium and phrenitis | ... | 1 | 11 | 12 | |
| | Hypochondriasis | ... | ... | 16 | 16 | |
| | Other diseases of the brain | ... | ... | 7 | 7 | |
| | Determination of blood to the head | ... | ... | 34 | 34 | |
| | Diseases of the spine and medulla | ... | 12 | 34 | 46 | 638 |
| II. Febrile diseases. A. General fevers. | Continued fever—typhus—contagious | 53 | 126 | 203 | 382 | |
| | Intermittent fever | ‡2 | 1 | ... | 3 | |
| | Infantile remitting fever | ... | 11 | 15 | 26 | |
| | Hectic | 10 | ... | ... | 10 | |
| B. Eruptive fevers. | Small-pox | 6 | 3 | 39 | 48 | |
| | Chicken-pox | 9 | 5 | 1 | 15 | |
| | Scarlatina | 18 | 1 | 29 | 48 | |
| | Measles | 24 | 13 | 17 | 54 | |
| | Urticaria | 10 | ... | 9 | 19 | 605 |
| III. Rheumatic and neuralgic diseases. | Rheumatism, acute & chronic | 69 | 29 | 341 | 439 | |
| | Sciatica | ... | 18 | ... | 51 | |
| | Lumbago | 2 | 7 | ... | | |
| | Neuralgia and nervous pains | ... | 8 | 16 | | 490 |

* Infantile. † A vulnere. ‡ Tertian.

| Classes of diseases. | Individual diseases. | Three yrs. 1810 to 1812. | Three yrs. 1819 to 1821. | Eleven yrs. 1823 to 1833. | Total diseas. in 17 years. | Total diseas. in each class. |
|---|---|---|---|---|---|---|
| IV. Diseases of the fluids, &c. | Plethora | ... | ... | 7 | 7 | |
| | Gout | ... | ... | 2 | 2 | |
| | Dropsical affections, chiefly ascites and anasarca* | 17 | 33 | 102 | 152 | |
| | Cachexy and chronic debility | 41 | ... | 57 | 98 | |
| | Scorbutus | ... | ... | 1 | 1 | |
| | Purpura | ... | 1 | 1 | 2 | |
| | Diabetes | †6 | 1 | 1 | 8 | |
| | Erysipelas | 19 | 2 | 55 | 76 | 346 |
| V. External scrofula. | External scrofula, including rickets, enlarged glands, diseased joints, cutaneous ulcers | 28 | 37 | 188 | 253 | 253 |
| VI. Scirrhus and cancer. | Scirrhus and cancer‡ | 6 | 12 | 24 | 42 | 42 |
| VII. Diseases of the head and throat. | Amaurosis and blindness | ... | ... | 18 | 18 | |
| | Ophthalmia | 60 | 31 | 133 | 224 | |
| | Otitis and Otalgia | ... | 3 | 6 | 9 | |
| | Epistaxis | ... | 2 | 1 | 3 | |
| | Parotitis (mumps) | 4 | ... | 7 | 11 | |
| | Bronchocele | 1 | ... | 6 | 7 | |
| | Cynanche tonsillaris and pharyngea | 8 | 4 | 50 | 62 | |
| | Ptyalism chronic | ... | 1 | ... | 1 | |
| | Aphtha | ... | 1 | 8 | 9 | |
| | Odontalgia | ... | ... | 24 | 24 | |
| | Deafness | ... | ... | 16 | 16 | |
| | Aphonia | ... | 2 | ... | 2 | 386 |

* In column two, are included general dropsy or anasarca 26; ascites, 4; hydrothorax, 3. In column three, the distinction is only made during the last five years, during which the total cases are 54, viz. anasarca, 36; ascites, 18.

† No doubt the greater number of the cases included in column one, were not the proper diabetes, *D. mellitus*.

‡ In column two, the cases were the following:—cancer of the uterus, 1; mamma, 4; eye, 1; lip, 1; cardia, 1; pylorus, 4.

| Classes of diseases. | Individual diseases. | Three yrs. 1810 to 1812. | Three yrs. 1819 to 1821. | Eleven yrs. 1823 to 1833. | Total diseas. in 17 years. | Total diseas. in each class. |
|---|---|---|---|---|---|---|
| VIII. Diseases of the thoracic viscera. | Catarrh and cough | 7 | ... | 267 | 274 | |
| | Chronic catarrh and chronic bronchitis | 60 | 50 | 133 | 327 | |
| | Chronic dyspnœa, and asthma | | 9 | 75 | | |
| A. Respirat. apparatus. | Acute and chronic pneumonia and pleurisy* | 123 | 54 | 320 | 497 | |
| | Hooping cough | 8 | 6 | 46 | 60 | |
| | Croup | 7 | 4 | 4 | 15 | |
| | Hæmoptysis and consumption | 66 | ... | ... | 297 | |
| | Hæmoptysis | ... | 11 | 78 | | |
| | Consumption | ... | 42 | 100 | | 1470 |
| B. Organs of circulation | Diseases of the heart and aorta | 1 | 4 | 54 | 59 | |
| | Palpitation and syncope | ... | ... | 17 | 17 | |
| | Pericarditis | ... | ... | 1 | 1 | |
| | Angina pectoris | ... | ... | 1 | 1 | 78 |
| IX. Diseases of the abdominal viscera and outlets. | Dysphagia | ... | ... | 20 | 20 | |
| | Stricture of œsophagus | 1 | 4 | ... | 5 | |
| | Dyspepsia, prim. and second.† | 143 | 228 | 467 | 838 | |
| | Colica simplex | ... | 3 | 30 | 33 | |
| | Cholera | 4 | 4 | 67 | 75 | |
| | Diarrhœa | ... | 20 | 216 | 236 | |
| | Dysentery | ... | 7 | 9 | 16 | |
| | Gastritis and gastric irritation. | ... | ... | 8 | 8 | |
| | Gastrodynia | ... | ... | 68 | 68 | |
| | Pyrosis | ... | ... | 28 | 28 | |
| | Hæmatemesis | ... | 5 | 22 | 27 | |
| | Hepatitis and liver disease | 6 | 14 | 54 | 74 | |
| | Jaundice | 7 | 2 | 6 | 15 | |
| | Constipation | ... | 5 | 109 | 114 | |
| | Peritonitis | ... | 4 | 13 | 17 | |
| | Tabes mesenterica | ... | 12 | ... | 12 | |
| | Worms | ‡4 | §16 | 163 | 183 | |
| | Enteritis | 9 | 4 | 17 | 30 | |
| | Colic, constipation and tympanitis | 8 | ... | ... | 8 | |
| | Diarrhœa, dysentery & cholera | 27 | ... | ... | 27 | |
| | Hæmatemesis and hæmorhois.. | 19 | ... | ... | 19 | |
| | Hæmorrhois | ... | 2 | 32 | 34 | |
| | Vomiting | ... | ... | 15 | 15 | |
| | Intestinal irritation | ... | ... | 103 | 103 | |
| | Marasmus | ... | ... | 17 | 17 | |
| | Disease of stomach | ... | ... | 3 | 3 | 2025 |

* Of these, in column two, the distribution was—acute, 11; chronic, 43.

† This disease is thus subdivided in the reports, whence the third column is constructed:—dyspepsia primary, 74; secondary dyspepsia, or biliary disorder, 119; abdominal inflammation consecutive, 35; total, 228.—This title in column one, includes cardialgia and worm fever.

‡ Tænia. § Tænia, 5; ascarides, 2; lumbricus, 9.

| Classes of diseases. | Individual diseases. | Three yrs. 1810 to 1812. | Three yrs. 1819 to 1821. | Eleven yrs. 1823 to 1833. | Total diseas. in 17 years. | Total diseas. in each class. |
|---|---|---|---|---|---|---|
| X. Diseases of the female genital organs. | Organic disease of the uterus... | ... | ... | 10 | 10 | |
| | Abortion ..... | ... | 5 | 7 | 12 | |
| | Prolapsus uteri ..... | ... | 8 | 25 | 33 | |
| | Leucorrhœa ..... | 2 | 4 | 57 | 63 | |
| | Menorrhagia ..... | 3 | 21 | 72 | 96 | |
| | Amenorrhœa and chlorosis ... | 203 | 21 | 174 | 398 | |
| | Dysmenorrhœa ..... | ... | ... | 13 | 13 | 625 |
| XI. Diseases of the urinary organs. | Nephralgia, nephritis, & other diseases of the kidney..... | ... | 6 | 13 | 19 | |
| | Dysuria, ischuria, and other diseases of the bladder ... | ... | 1 | 54 | 55 | |
| | Hæmaturia ..... | ... | 3 | 6 | 9 | |
| | Diseases of the bladder and kidney ..... | 20 | ... | ... | 20 | |
| | Calculus and gravel ..... | ... | ... | 3 | 3 | 106 |
| XII. Diseases of the skin, chronic. | Chronic eruptions ..... | 107 | 51 | 370 | 528 | 528 |
| XIII. Surgical diseases. | External local inflammations, phlegmon, furunculus, anthrax, paronychia ..... | ... | 11 | 300 | 311 | |
| | Lues venerea ..... | ... | ... | 51 | 51 | |
| | Hydrocele ..... | 4 | 5 | 8 | 17 | |
| | Hernia ..... | ... | 8 | 28 | 36 | |
| | Tumor mammæ ..... | ... | 17 | 42 | 59 | |
| | Other surgical cases ..... | ... | 326 | 381 | 707 | 1181 |
| XIV. Anomalous cases. | ..... | 24 | 23 | 7 | 54 | 54 |

*Note.*—It will be observed that the arrangement of diseases in this table, is on an entirely different principle from that stated in the observations which precede it. It is not pretended that the plan here adopted is particularly good, but it seems to have some advantages over the simply alphabetical arrangement.

SUMMARY.

| | | | |
|---|---|---|---|
| Diseases of the brain and nervous system | 638 | Diseases of the abdominal viscera | 2025 |
| Febrile diseases | 605 | Diseases of the female genital organs | 625 |
| Rheumatism and neuralgic diseases | 490 | Diseases of the urinary organs | 106 |
| Diseases of the fluids, and of unknown site | 346 | Chronic diseases of the skin | 528 |
| External scrofula | 253 | Anomalous cases | 54 |
| Scirrhus and cancer | 42 | Total medical cases | 7646 |
| Diseases of the head & throat | 386 | Add surgical cases | 1181 |
| Diseases of the lungs & pleura | 1470 | | |
| Diseases of the heart | 78 | Total cases | 8827 |

*Table B.—Abstract of the diseases of which persons died in the parish of St. Paul (including the fishing villages of Newlyn and Mousal) from* 1795 *to* 1814*; extracted from the parish register; a period of nineteen years.*

NAMES (AS GIVEN IN THE REGISTER), AND NUMBER OF DISEASES.

| | In how many yrs. | No. | | In how many yrs. | No. |
|---|---|---|---|---|---|
| Consumption | 9 | 18 | Burn and scald | 4 | 5 |
| Old age | 19 | 198 | Jaundice | 1 | 1 |
| Small-pox* | 15 | 89 | Weakness | 2 | 3 |
| Asthma | 2 | 2 | King's evil | 1 | 1 |
| Sudden death | 11 | 22 | Gravel | 1 | 1 |
| Decline | 19 | 179 | Throat disorder | 1 | 1 |
| Fever† | 18 | 68 | Fractured scull | 1 | 1 |
| Dropsy | 17 | 46 | Want of natural functions | 1 | 1 |
| Mortification | 16 | 35 | Pain (of knee, head, stomach) | 3 | 3 |
| Measles‡ | 5 | 27 | Cancer | 6 | 7 |
| Croup | 9 | 15 | Atrophy | 2 | 2 |
| Palsy | 10 | 13 | Dysentery | 1 | 1 |
| Inflammation | 9 | 18 | Ulcer | 1 | 1 |
| Bilious complaints | 1 | 1 | Abscess | 1 | 1 |
| Unknown | | 37 | Colic | 1 | 1 |
| Fits and convulsions | 15 | 37 | Lunacy and mental disorder | 2 | 3 |
| Imposthume | 6 | 8 | Polypus | 1 | 1 |
| Hooping cough | 7 | 11 | Suffocation | 1 | 1 |
| Child-birth | 7 | 11 | Fright | 1 | 1 |
| Apoplexy | 10 | 10 | Total | | 914 |
| Inflammation of bowels | 10 | 22 | | | |
| Liver complaints | 1 | 1 | | | |
| Accidental | 5 | 9 | | | |
| Swine-pox | 1 | 1 | | | |

* In 1797 there were 16 cases; in 1802, 16; in 1803, 17.

† 1801 was clear. ‡ In 1811 there were 6 cases; 1812, 15.

*Table C.—Abstract of the mortal diseases of persons interred in St. Hilary Church-yard, from* 1777 *to* 1805, *(twenty-eight years.) Extracted from the parish register.*

NAMES AS RECORDED IN THE REGISTER.

| | In how many yrs. | | No. | | In how many yrs. | | No. |
|---|---|---|---|---|---|---|---|
| Febris | 21 | ... | 74 | Hydrops | 13 | ... | 14 |
| Variola | 8 | ... | 56 | Colica | 9 | ... | 12 |
| Tabes | 23 | ... | 70 | Partus | 7 | ... | 11 |
| Rubeola | 4 | ... | 8 | Subito | 16 | ... | 20 |
| Tussis ferina | 2 | ... | 5 | Scrofula | 2 | ... | 2 |
| Morbus gutturis | 8 | ... | 11 | Accidents | 7 | ... | 13 |
| Tussis | 5 | ... | 7 | Ditto in mines | 8 | ... | 9 |
| Asthma | 8 | ... | 9 | Unknown | | ... | 544 |
| Capitis dolor | 3 | ... | 10 | | | | |

Total diseases, 331——Unknown, 544——Total, 875.

*Note.*—As the names of the diseases in the two foregoing tables (*B* and *C*) are exactly as they are recorded in the parish registers, by the clergymen, who were not of the medical profession, some allowance must be made for incorrect or false nomenclature. In the more common diseases, however, especially contagious and epidemical disorders, such as fever, small-pox, measles, &c. there seems hardly any grounds for questioning their authenticity, as it is very improbable that the resident clergyman could be mistaken in such well known complaints. In several other instances, it is sufficiently evident that the diseases must be improperly named, as, for example, in the case of "Mortification," in the St. Paul table, and of "Capitis dolor," in the St. Hilary. These authentic records are, nevertheless, very valuable.

---

## ART. II.—OBSERVATIONS ON PARTICULAR DISEASES.

### I. EPIDEMIC DISEASES.

*Continued Fever, or Typhus.*—A reference to the foregoing tables is sufficient to prove the great prevalence of the common continued epidemic fever of this country, variously denominated contagious fever, typhus, &c. in the town and immediate vicinity of Penzance, during the period comprehended by them. And I am enabled, by my own observation during part of the same period, and by the

communications of the local practitioners, to state, that a degree of prevalence, like in kind, but varying in intensity from time to time, has marked the district for many years past, and nearly in every part of it alike. The testimony of the four oldest practitioners, the duration of whose practice, at the period of my inquiries (in 1819–20), had been thirty-six, forty-eight, forty-nine, and fifty years, respectively, was uniform in this particular, although their accounts varied as to the relative degree of prevalence in more recent and distant years. One of these gentlemen, who resided in Penzance, regarded the disease as less common of late years; while another, resident in the town of Helstone, fourteen miles to the eastward, considered the amount of fever to have been greater during the latter twenty years, than the twenty preceding. The longest period of exemption of the district from this fever, in the epidemic form, admitted by any of them, was ten years; but the general testimony went in favour of an exemption of only one or two years. The disease was considered to have retained the same general character throughout the whole period of my informants' experience; but it was admitted by some, to have been more fatal in former years. The existence of this fever, as an almost habitual condition of the district, is also shewn by the register of deaths in the parishes of St. Paul and St Hilary. In the former parish, which comprehends the large fishing villages of Newlyn and Mousal, there is only one single year (1801), between 1795 and 1814, in which a death from fever is not recorded; while the proportion of deaths, from this cause, was rather

more than one-thirteenth of the whole. In the parish of St. Hilary there was an exemption of seven years out of twenty-eight, but the proportion of deaths from fever, to the whole mortality, was greater, being more than one-twelfth. Similar testimony, as to the habitual prevalence of continued fever in the district, is given by the Cornish historians; by Pryce, who wrote about the middle, and by Polwhele, who wrote about the end of the last century.* Dr. Montgomery, the present physician of the Penzance Dispensary, informs me that continued fevers have been less prevalent in that town of late years, but that they are still of frequent occurrence in some of the country parishes.

The fever was confined to no particular localities, nor to any class of the inhabitants. It can hardly be said to have prevailed more in the villages, than in detached houses; and, indeed, the former are so common, and the latter so rare in this district, that the disease could hardly find materials but in the towns and villages. As usual, the poor and labouring classes were most obnoxious to it; but during my residence in Cornwall, not a few of the better classes of the inhabitants were affected by it. The contagious nature of the disease appeared to me unquestionable.

The continued fever of the Landsend exhibited nothing peculiar in its character. It was often very severe, long-protracted, and frequently fatal. Death occurred rarely from sudden collapse; sometimes from intestinal hemorrhage; commonly by the typhoid or comatose state, indicating an affection of

* *Pryce's Mineralogia Cornubiensis.—Polwhele's History of Cornwall.*

the brain of an unknown quality; never by the supervention of anything like putridity.

The most beneficial treatment appeared to be general and local bleeding in the early stage, and leeching in all stages when the affection of any one organ was predominant, with mild aperients and common refrigerants: but I am bound to confess, that the result of no practice adopted by me, was sufficiently successful to satisfy myself, or to justify me to recommend it with any confidence.

During the period of my residence at Penzance, a few cases of fever occurred, which seemed to me, at the time, to be, and probably were, unconnected with contagion, or any influence either of an epidemic or endemic kind. They were most distinguished by disorder of the digestive organs, and as they occurred in the warmer season, they were, no doubt, members of that family which has at different times borne the name of *bilious, mucous, gastric, &c.* In no case did they put on any semblance of remittent; and neither in this, nor any other case of fever, was I ever led to employ bark, during my stay in Cornwall. According to the testimony of the older practitioners, sporadic fevers of a continued or imperfectly remittent character, and of a more contagious nature, were more frequently met with in former years, more particularly in the lowest and dampest localities, and on the more uncultivated moors.

In explanation of the cause of the continued prevalence of epidemic fever in this district, it will, I apprehend, be considered sufficient, by most persons, to refer to the economical details in the former

part of this paper. In the close, ill-ventilated, and dirty tenements, in the poverty and deficiency of food and clothing, and in the mental depression consequent thereon, we may find ample causes of fever, although scarcely any of the usual sources of malarious influence are to be traced in the district,—a fact still more strikingly demonstrated by the almost total absence of intermitting and remitting fevers. This is a circumstance deserving the attention of those who are disposed, with the late Dr. Armstrong, to look to terrestrial miasmata for the cause of all our fevers.

*Small-pox.*—The tables in the preceding section, my own observation, and the concurrent testimony of the medical practitioners and old inhabitants of the district generally, demonstrate the gratifying fact, that in spite of the still existing prejudices against vaccination, and the numerous failures of its protecting influence, the immortal discovery of Jenner has been productive here, as elsewhere, of a great diminution of the prevalence, and consequent mortality, of small-pox. During the period of my residence in Cornwall, the disease was several times epidemic. It was propagated partly by casual infection, partly by the evil activity of some rustic inoculators; but the sphere of its influence and fatality was greatly contracted by vaccination, which had been generally practised by the surgeons for many years previously. The prejudice against vaccination is still strong among the common people here as elsewhere, and continues to be strengthened by the occasional occurrence of cases of secondary small-pox. In weak compliance with this prejudice,

the surgeons in several parts of the district, during my residence, had returned, to a considerable extent, to the practice of variolous inoculation, although they all practised vaccination at the same time. Several cases of second attacks of small-pox in the same person came under my observation, as well as a good many cases subsequent to vaccination.

According to the testimony of the older practitioners, the disease is incomparably less frequent than in their early experience. Although the district, taken as a whole, could never be said to have been entirely free from it, yet it could not be said to have been generally prevalent, in anything like its former violence, for the twenty years preceding the date of my inquiries. When existing, it was also found to be less fatal than in former years, probably owing to the improved method of treatment. All the older practitioners had met with cases of second attacks of small-pox in the same individual.

The greater frequency and fatality of small-pox in the district, previously to the introduction or general prevalence of vaccination, are shewn by the registers of St. Paul and St. Hilary. In the former, in a population of about 3000, the total deaths from small-pox, in the nineteen years anterior to 1814, were 89, or nearly one-tenth of the whole mortality; while in three years only, previously to the introduction, or at least general protecting influence of vaccination, viz. in 1795, 1802, and 1803, the deaths were 49, being more than during the remaining period. In the parish of St. Hilary, having a population under 1000, we find the number of deaths, in the twenty-eight years preceding 1805, to be 56,

or about one-fifteenth of the whole—a considerably smaller proportion than in the former case, probably to be accounted for by this parish being without any large villages, while St. Paul's, on account of its large fishing villages, is in a very crowded state both as regards houses and inhabitants. In St. Hilary, however, we find that the whole deaths from small-pox, took place in eight years out of the twenty-eight, a characteristic indicative at once of the epidemic nature and fatality of the disease.

*Chicken-pox.*—To judge from the tables, this should be a comparatively rare disease in the Landsend district: it is, however, to be recollected, that the malady is of an epidemic character, and that the period included in the tabular view is comparatively short. I have no reason to believe that its habitudes, both as to prevalence and individual character, are in any way remarkable. The only point of importance to be noticed in its history, is the fact of its being occasionally confounded with small-pox after vaccination. I have no reason to believe that it prevailed more among one class of persons than another: it was regarded by some practitioners as more prevalent in the summer season.

*Scarlatina. Cynanche maligna.*—The tables represent this disease as of comparatively infrequent occurrence at Penzance. During my stay there it certainly was so, as only a single case is recorded in the dispensary registers. It appears, however, by the same register, that in the years preceding and subsequent to my abode there, the disease was more prevalent. In other parts of the district there was

the same variation as to prevalence, both in place and time; it being occasionally absent from the practice of different practitioners, in different parts of the district, for several years at a time. The uniform testimony of the older practitioners was in favour of its much greater prevalence and severity in former years. Their recent experience was only conversant with the simple scarlatina with slight affection of the throat; while in their early practice the disease in a *putrid* form, as they describe it, the true cynanche maligna, was rife and very fatal. The same fact is illustrated by the register of the deaths in the two parishes already referred to. In St. Paul's, which does not extend further back than the year 1795, we have only one death from "throat disorder;" while in that of St. Hilary, which comprehends the time from 1777 to 1805, we have 11 from the same cause, being one in 79 of the whole mortality. I think it probable, however, that in the register of the former parish, some of the cases included under the general name of *Mortification*, were in reality the putrid sore throat, a disease which was early signalised as of fatal prevalence in Cornwall.

In the 46th vol. of the *Philosophical Transactions*, for the year 1750, there is a very interesting account of a fatal epidemic of this kind at Liskeard, (twenty miles to the eastward of the hundred of Penwith) given by Dr. John Starr, under the name of *Morbus strangulatorius*. It appears to have been unaccompanied with any cutaneous eruption, and to have proved fatal in general, by the extension of the inflammatory affection of the fauces into the trachea, producing the peculiar form of secondary croup,

the nature of which has been well understood since the publication of Dr. Bretonneau's work on *Diphtherite*. Nothing can be clearer or more accurate than Dr. Starr's account, as far as regards the phenomena of the disease, which was precisely that described by the French physician, viz. a peculiar inflammation of the mucous membrane of the fauces and air passages, throwing out a continuous fibrinous membranous exudation on the surface of the affected parts; although Dr. Starr regarded the exuded membrane as an actual separation of the natural mucous tunic of the affected parts, produced by gangrene. The old practitioners had formerly met with cases of this sort in the Landsend district, though none of them described it with the same precision and horror as Dr. Starr, who regarded it as, "in its consequences, frightful, even shocking to the imagination."

*Measles.*—This disease, like the last, would appear, from the tables, to have been rather less common in Penzance, than in other parts of the country;* but being an epidemic affection of uncertain recurrence, such results can hardly be admitted as satisfactory evidence of the general fact. During the period of my abode there, it prevailed frequently over the whole district, in different places at different times; and the testimony of the older practitioners was decidedly in favour of the opinion that measles had become more prevalent and more fatal of late years. One of my informants

* The relative proportion to other diseases, as deduced from the Dispensary Reports, is 1 in 164; whereas, in Plymouth it was 1 in 62; and in London, according to Willan and Bateman's Reports, 1 in 76.

assured me, that he had not lost a patient from this disease during the first forty years of his practice; but the same strong evidence of this fact, was not afforded by gentlemen of equally long experience. Its great fatality of late years was, however, generally admitted; and one of the country surgeons assured me, that no less than seventy persons had died of it in one year in one parish. Out of the 27 deaths from measles, recorded in the register of St. Paul, 21 occurred in two years, viz. in 1811, 6, and in 1812, 15. In the parish of St. Hilary (much smaller than St. Paul's, it is true) the register of which does not come below 1805, only 8 deaths from the same disease took place in twenty-eight years. In the year 1819, the disease proved fatal in a considerable proportion of the cases which occurred at Penzance; but there was nothing particular either in the result, or in the history or phenomena of the affection.

*Nettle-rash.*—This affection was hardly observed by me, or in so slight a degree as to be undeserving of notice. I believe this is the character in other situations.

*Erysipelas.*—I have no remark to make on this disease. It would appear, from the tables, to be of rather frequent occurrence.

*Hooping cough.*—Hooping cough, in this district, presents nothing peculiar either in its relative prevalence or individual character. It is, and always has been prevalent after uncertain intervals. Some of the practitioners considered it as more common in spring and autumn, than at other times. Although no one had confidence in any one of the many remedies prescribed in this disease, yet it was

regarded as hardly ever fatal in its uncomplicated state. It, however, became so occasionally, by passing into, or being superseded by, other diseases, particularly of the lungs. In the register of St. Paul, we find eleven deaths, and in that of St. Hilary five deaths, from this disease; the former occurring in seven different years, the latter in two.

*Croup.*—Mr. Polwhele, in his history of Cornwall, states this to be a frequent and most fatal disease in that county. Of its fatality, I believe there is only one opinion; but it may be doubted if it is more frequent in Cornwall than elsewhere. I am, however, disposed to regard it as being fully as frequent as in any place which I have had an opportunity of observing. In the register of St. Paul, we have fifteen deaths recorded in nineteen years, being one in sixty-one of the whole mortality. In the practice of the surgeons of the district, it was found of general, but by no means of frequent occurrence: yet seldom more than two years would elapse without the occurrence of some cases; and when they did occur, they were extremely fatal. I could not ascertain that the disease was more prevalent in any one place than another. It was confined to children. All my four cases occurred in the same year, and two out of four died.

*Mumps.*—I met with no case of this disease while in Cornwall: it however appears on the books of the dispensary both previously and subsequently to the period of my residence. This fact shews its epidemic character; and I was assured by the surgeons of the district, that it occasionally appeared in this manner, in different parts of the district.

II. CLIMATORIAL DISEASES.

*Catarrh.*—It would result from table A VIII. that the common catarrh was less prevalent at Penzance, than in either London or Plymouth.* Judging from general observation, however, I should say, that in the slight form in which it is usually observed, when it hardly claims medical interference, it was as frequent there as elsewhere. It was also common in the chronic form, as a sequela of the acute disease.

The acute disease did not appear to be more frequent among any one class of persons than another; not even among miners, who, as we have already seen, are especially obnoxious to the common causes of it, variety of temperature and exposure to wet, and among whom, as we shall shew hereafter, the idiopathic chronic catarrh, the effect of their peculiar habits, is so much more prevalent than among the other classes of the community. The Landsend district has been visited with the epidemic influenza equally with other parts of the kingdom.

*Ophthalmia.*—Common catarrhal ophthalmia, and also strumous ophthalmia, appeared to me more than commonly prevalent at Penzance, one-thirty-ninth part of the total diseases seeming to be a very large proportion for ophthalmia. And it is to be observed, that nearly all the cases included in the tables were unconnected with the mining population, among whom the disease is very common from surgical causes. I am not aware that common acute idiopathic ophthalmia is more common among miners than the other classes of labourers.

* The proportion at Penzance is about 1 in 15; at Plymouth, 1 in 10.3; at London, 1 in 4.5.

*Otitis and Otalgia.*—A few cases of this affection were met with, but they presented nothing remarkable in their history or character.

*Cynanche tonsillaris et pharyngea.*—Inflammatory sore throat was regarded by the surgeons as a rather common disease; and I think I noticed it as frequently as I have done elsewhere. It affected no locality, or class of persons, more than others. I may notice a remark made by one of the old surgeons, which I have often seen verified elsewhere, that the disease affected particular families more than others.

*Rheumatism.*—From my own observation, and the result of my inquiries while in Cornwall, I was led to regard the acute rheumatism as comparatively of rare occurrence among any class of the community in this district. At least, I may safely say, that it was, during my residence, considerably less frequent than in the more northern parts of the island. One of the older practitioners assured me, that he had met with a few cases only, in a practice of forty years. The whole cases seen by me, in four years and a half, were four in number, viz. two in 1817, and two in 1821, not one case having been met with in the three intermediate years. In the Dispensary Report for 1821, I stated, "During the whole of the last two years, not one case of acute rheumatism has been entered in the books; and I cannot help thinking that the total absence of the disease among so large a body of individuals, for so long a period, is a circumstance that would be reckoned very singular in the northern, or even central parts of our island. It is, at all events, I

think, sufficient to render doubtful the truth of a common notion, that a moist climate is favourable to the production of rheumatism." It would, nevertheless, appear, from some of the Dispensary Reports in subsequent years, and from the observations of the present physician of the institution, Dr. Montgomery, that the comparative absence of rheumatism observed by me, was rather a temporary incident, than the habitual condition of the district; unless, indeed, it should be found, by still more extensive experience, that the state observed by Dr. Montgomery, is an exception to the general law. In the reports of this gentleman, for the five years from 1829 to 1833, we find no less than 194 cases recorded, being an average of 39 annually; and although, for want of any detailed classification of the cases, we cannot form any accurate estimate of their nature, still we are justified in inferring, from Dr. Montgomery's remarks, that the cases were frequently of an acute nature, and much more severe than had occurred there during my residence. Indeed, this seems to have been the case with diseases generally. In 1829, he observes, "A large proportion of inflammatory diseases have come under treatment. The variable and severe weather during part of the late winter, had assuredly much influence in the production of these diseases." In 1830, he says, "Inflammatory affections, especially of the chest, were exceedingly prevalent during the late winter, and more particularly soon after the very cold weather. *Rheumatism* was also of frequent occurrence, and in numerous examples proved a tedious and intractable disease." In 1831—"Rheumatism has

likewise been of frequent occurrence, and occasionally proved peculiarly painful and intractable." And, finally, in 1832—"Some cases of Rheumatism were of great severity, and appeared to take their origin in the early occupation of newly-erected houses. Although this disease did not, in any instance, prove fatal, I have reason to fear that, in some patients, organic disease of the heart has been established."

The chronic disease, however, including under this head all local pains of the joints not depending on diseased bones or cartilages, must, I think, be regarded as of not infrequent occurrence. In table A III. I have been obliged to unite, under one head, the acute and chronic forms of the disease, because they are so confounded in the reports of the majority of the years. In my own reports, and in the two years subsequent to my leaving the Dispensary, the distinction between the acute and chronic affection is noticed, and the proportion is 5 of the former to 69 of the latter—or 1 case of acute for every 14 of chronic rheumatism. This is a much greater disproportion between the two species, than is shewn by the Plymouth and London tables, or by Dr. Haygarth's reports; the following being the relative proportion of the two forms in reference to the total diseases observed:

| | London. | Plymouth. | Dr. Haygarth. | Mean. |
|---|---|---|---|---|
| Acute rheumatism ..... | 1 in 50 | 1 in 50 | 1 in 62 | 54.0 |
| Chronic rheumatism ... | 1 in 20 | 1 in 27 | 1 in 35 | 27.3 |

The degree of prevalence of both forms of the disease, relatively with that observed in other places, is considerably less than at London and Plymouth,

but more than that recorded in the tables of Dr. Haygarth, who practised in the North of England. The relative proportions are the following :

| | London. | Plymouth. | Dr. Haygarth. | Penzance. |
|---|---|---|---|---|
| Acute and chronic rheumatism ..... | 1 in 14.7 | 17.0 | 22.0 | 20.0 |

The evidence supplied by the practitioners of the district, as to the relative prevalence of rheumatism among the different classes of the community, is somewhat contradictory, but the weight of testimony is decidedly in favour of the opinion that the disease is not more prevalent among miners, than among other labourers ; and this is the conclusion to which my own observation leads. It must be owned that this is rather a singular circumstance, according to the commonly received etiology of the disease, when we refer to what was stated in a former part of this paper respecting the extreme dampness, or rather wetness, of some of the mines. Would it, therefore, seem probable that the effect of the moisture was counteracted by the warmth of the locality, and the immunity from currents of air in the bottom of the mines?

*Pneumonia and Pleurisy.*—I class these two diseases together, because it was impossible to separate them in drawing out the tables, and because they so commonly recognise similar causes. I trust that henceforward there will be found less difficulty in distinguishing these two diseases in practice and treatment, however much they may continue to acknowledge like causes. It will appear, from table A VIII., that inflammatory affections of the chest are of uncommon frequency at Penzance ; much more frequent, indeed, than either at Ply-

mouth or London. In London the relative prevalence of pleuritis and pneumonia, as deduced from the Reports of Drs. Willan and Bateman, is 1 in 47; at Plymouth, according to Dr. Woolcombe, 1 in 31; whereas, at Penzance it is 1 in 17.7. What makes this result (if, indeed, it may safely be received as a general one) more striking, is the fact that Penzance is not in the immediate vicinity of the great mines, among the population of which, as we shall shew more particularly hereafter, such pectoral affections are extremely frequent. It is, nevertheless, true that a good many chronic affections of the chest, in old miners, did find their way to the Dispensary, and, no doubt, contributed to swell the list of diseases included under the present head; still such cases were more frequently classed under the head of chronic catarrh, asthma, dyspnœa, or simple cough. If, then, we may be allowed to assume the results of the Penzance tables as affording a fair view of the relative prevalence of diseases in the district, we must admit the conclusion, that inflammatory affections of the chest are of very frequent occurrence among the inhabitants of the Landsend. The general testimony of the country practitioners, likewise, established the great prevalence of pneumonia; and all those connected with mines, regarded it as more common among miners than among the labourers on the soil. It was also a general observation of the more experienced practitioners, that the disease was more prevalent formerly than of late years.

The registers do not admit of classifying the cases into acute and chronic, for the whole space of time;

but I can state this for the diseases included in the second column of table A VIII. during a period of three years, viz. 11 acute, and 43 chronic.

One class of the community, viz. miners, are much more obnoxious to chronic inflammations of the thoracic organs than the other inhabitants, as will be shewn in a subsequent part of this paper; but if it is admitted that the whole population is more liable to such diseases than in other districts, the extreme degree of prevalence among miners will excite less surprise.

The same remarks apply exactly to most of the other diseases included in table A VIII. under the general head of thoracic diseases; and if we exclude hooping cough and croup, and phthisis pulmonalis, we may safely include all the remaining affections under one head, as all partially of the same inflammatory nature, and all probably acknowledging the same general causes. These affections are catarrh and bronchitis, cough, chronic asthma and dyspnœa, pneumonia and pleurisy. Taking all these under one view, we find they constitute, within a fraction, one-eighth of the whole diseases; and if to these we add the remaining pectoral affections, hooping cough, croup, hæmoptysis, and phthisis, we find the whole sum of diseases of the chest amounting to one-sixth: an enormous proportion, certainly, and considerably, I apprehend, beyond the average of such diseases in other parts of the kingdom?

*Diarrhœa and Dysentery.*—These diseases appear to prevail in the ordinary proportion observed elsewhere in this country. Actual severe dysentery is

very rare, a case not being seen in the practice of one surgeon for many consecutive years. In the Dispensary tables 16 cases are recorded in fourteen years, being about 1 in 393 of the whole diseases of the period. Diarrhœa is far more common, but rarely becomes epidemic. All the surgeons agree in stating that these complaints are not more prevalent among miners, than among other classes of the inhabitants. The total number of cases of diarrhœa during fourteen years, in the Dispensary Reports, are 236, being 1 in 37 of the total diseases. It will be observed in the reports, that the proportion of cases of diarrhœa is much greater during the latter years of the period. This is accounted for by the fact, of the year 1833 being comprehended in the latter period. In this year the cholera made its appearance at Penzance, and, as usual in other places, was preceded and accompanied by an epidemic diarrhœa. In that year 105 cases of diarrhœa are entered on the Dispensary list, while only six more were recorded during the whole of the four preceding years. This must be kept in view, in estimating the general prevalence of diarrhœa, from the results given in the tables.

*Cholera.*—If this disease is not less frequent in this district than elsewhere, it certainly is not more so. My own opinion is, that it is rather less frequent. I only saw four cases of it during my residence at Penzance, among the dispensary patients, and only one or two more in private practice. Of the 67 cases recorded in the dispensary lists, from 1823 to 1833, no less than 33 occurred in the last-mentioned year, and were instances of the epidemic

spasmodic cholera. Deducting these, we find the remaining cases to bear nearly the same proportion to the total diseases, as the cases of cholera did in the former periods; and it is obvious that we should exclude these cases of the new form of disease, in making an estimate of the general prevalence of English cholera in this district. On this principle, the proportional number of cases of cholera at Penzance, during the seventeen years, in place of being 1 in 118 cases of disease generally, as might be deduced from table A, ought to be only 1 in 210 cases, a proportion which is less than that recorded in Dr. Bateman's London tables (1 in 187), and considerably less than that in Dr. Woolcomb's, at Plymouth (1 in 107).

The disease does not appear to prevail more among miners than among other classes of the people; and the results of my observation and inquiries afford me nothing peculiar to state, either as to the character or treatment of the disease.

The visitation of the epidemic spasmodic cholera in this district, in 1832, presented, I believe, nothing peculiar in its features or history. It first made its appearance in the fishing village of Newlyn, in the parish of St. Paul, and subsequently visited Penzance, and the adjoining parish of Gulval. The following extract from the Penzance Dispensary Report, for the year ending April, 1833, drawn up by Dr. Montgomery, physician to the dispensary, contains a brief summary of the epidemic: "The cholera, at Penzance, as elsewhere, was preceded as well as accompanied by numerous cases of diarrhœa, and this diarrhœa, when neglected, was found to pass into cholera. With a few impressive ex-

ceptions, the disease observed its usual character, in seizing upon the aged and exhausted, in preference to the young and robust. Some of its first invasions were also found to be completely beyond the power of all remedial measures, and to hurry the sufferer with appalling rapidity to the grave; while many of its later attacks were more easily controuled. I am not in possession of documents to enable me to enter upon detailed statements, but so far as my own personal experience went, I am of opinion that not more than one in three of the cases ended fatally: the intensity of the disease had begun to abate in a fortnight, and its duration did not extend beyond one month. The funerals at St. Paul amounted to 96; at Penzance, to 64; and at Gulval, to 8; making a total of 163, in a population of about 12,000."

It was believed, at Penzance, that the cholera "was brought to Newlyn, from the North of Ireland, by fishermen who annually visit that coast;" but I must say, that I think the suddenness of the inroad, rapid spread, and total disappearance of it, within the brief period of a single month, is very little characteristic of a contagious disease. If disposed to follow the ordinary laws of contagion, how came it, after having established so many *foci* whence the contagious atoms might be diffused, to depart, as it were, at once, leaving the vast majority of the population uncontaminated? Surely such results are much more explicable on the theory of some more general and exterior influence, than by the laws which, in all other cases, seem to regulate the transmission of diseases from one individual to another.

### III. ENDEMIC DISEASES.

*Ague.*—Of all diseases usually classed under the head *Endemic,* there is no one more truly so, or of which the habitudes have been so accurately ascertained, as ague. Although ignorant of the nature of the actual agent that produces this disease, we are well acquainted with the principal circumstances amid which it originates, insomuch that we can always predicate, with considerable certainty, upon examining any locality, whether or not the inhabitants there residing are subject to this affection. It is hardly necessary to state, that the particular situations liable to ague, are those which contain marshes, or are, at least, low and flat, containing much stagnant water in pools or ditches, &c.

The topographical account of the Landsend, in the former part of this paper, which characterises the whole district as hilly, dry, and almost devoid of any thing like marshy lands or stagnant waters, will lead any one to predicate its comparative immunity from ague: and this prediction is proved to be correct by the actual history of the district. In the Penzance Dispensary Reports, only three cases are recorded in a period of seventeen years, and among upwards of 8800 patients. During my residence, only one case occurred at the Dispensary; and this is the only one witnessed or heard of by me during that period. In the eleven years subsequent to my residence, not a single case was entered on the Dispensary books. The oldest practitioner in the district had never known a single case to occur in the town of Penzance, in a practice of fifty years. The case witnessed by me, occurred in the person of a

fisherman from the parish of St. Paul. I am ignorant of the circumstances connected with the two cases that are recorded on the Dispensary books, before my connexion with it.

The same almost complete exemption from intermitting fever, not only during the period of my residence in Cornwall, but for many years previously, was confirmed to me by the testimony of all the practitioners in the district. Hardly a case had been witnessed by them for a dozen years, and very few indeed for twenty years: scarcely any of the younger practitioners had seen a case of the disease.

And yet this immunity from ague is only a comparatively recent feature in the medical history of the district. All the older surgeons were familiar with the disease in their earlier practice. Forty years before the period of my inquiries, each practitioner saw many cases every year: one, "about thirty in a twelvemonth;" another "five or six every spring and fall;" and a third "a great many;" and the uniform testimony of medical tradition, throughout the district, went to establish the general prevalence of the disease in the days of their fathers. The same evidence goes to prove that the disappearance of the disease has been progressive; a fact also illustrated by the official registers of the Dispensary. In the three years from 1810 to 1813, two cases occurred; in the three years from 1819 to 1822, one case occurred; in the eleven years from 1823 to 1833, not one case occurred.

There seems every reason to believe that the causes commonly assigned for the decrease of ague in England, during the last and the present centu-

ries, for the decrease is general, viz. the draining of marshes and wet grounds, the cultivation of waste-lands, the improved cleanliness of the habitations of the poor, &c. are correct; and no doubt all these have operated, more or less, in this district; still there seems something else wanting for the complete elucidation of the change that has so universally taken place in this respect. At no period could there have existed marshes to any extent, or stagnant ditches or ponds, or even wet lands, in any part of this district. Certainly, causes of this kind could not, at any time, have existed in a greater degree than they now exist in Scotland, where ague is, and always has been, totally unknown.

None of the practitioners, old or young, had ever met with a case of ague in a miner, or streamer,* which could, with any degree of probability, be attributed to causes immediately connected with the occupation of such persons. And this is a curious and important fact, as proving, in a very decided manner, that neither impure air simply, nor wet, nor the alternation of cold and heat, nor all these combined, can give rise to fevers of type.

*Hepatitis and Scirrhous Liver.*—These diseases appear to be rather more frequent than I should have supposed *a priori,* although certainly not more frequent than in other parts of the kingdom. I have been so much accustomed to consider organic diseases of the liver and spleen as so much more pre-

* A streamer is a *surface*-miner, who searches for tin ore in the alluvial soil in the vallies, and on the banks and in the channels of the numerous *streams* of the district. His employment necessarily exposes him to much wet.

valent in malarious districts than elsewhere, that I should have predicated of the Landsend district a comparative immunity from them. The fact, however, is by no means such as regards Penzance and its immediate neighbourhood, as is shewn by the Dispensary table; and the same results are afforded by my inquiries among the resident practitioners in Penzance. One of these had met with several cases of chronic hepatitis which proved fatal by suppuration, and some others in which recovery had taken place on the abscess being discharged externally. Several of the practitioners in the country to the eastward of Penzance, considered the disease as very rare, meeting with no more than a single case in seven or eight years, during a long practice. Judging from my own limited experience, and the results of the Penzance table, I should say that organic affections of the liver were of moderate frequency in the district.

*Jaundice.*—This disease, which the Dispensary tables shew to have been comparatively infrequent at Penzance, at least much less so than hepatitis and scirrhous liver, was regarded as of frequent occurrence by the same country practitioners who reported liver cases as rare. Several of them who had only met with two or three cases of diseased liver in seven or eight years, met with as many cases of jaundice annually. Some of the older practitioners also considered the disease as rarer now than in their early practice. They noticed a fact, which most practitioners must have observed of this and of many other diseases, that it had a tendency to run in families: some had met with three cases in one family.

*Diseases of the Spleen.*—The connexion between disease of the spleen and ague is much better supported by the medical statistics of this district, than the connexion between the latter class of diseases and affections of the liver. While, as we have seen, hepatic cases are far from uncommon in the hundred of Penwith, it will be observed that not a single case of splenic disease is recorded in the Dispensary lists; and I may had, that I neither saw nor heard of any case of the kind during my residence there. By way of contrast to this fact, I may state that at Chichester, which is only in a very slight degree a malarious district, I meet with more than one case of enlarged spleen every year, among my Infirmary patients.

*Bronchocele.*—This is another disease of a strictly local character, although its causes, or the particular circumstances under which it occurs, are much more obscure than in the case of ague. I did not meet with a single case of it during my residence in Cornwall, and all my inquiries lead to the conclusion that it is of comparatively rare occurrence in the Landsend district. It appears that only seven cases were admitted at the Penzance Dispensary during a period of fourteen years; and none of the surgeons of the district had met with many cases in the course of their practice: all, however, had met with a few. Although, therefore, when compared with many districts in the kingdom, the Landsend presents a very small proportion of cases of bronchocele, still, I apprehend, there are many districts which exhibit even fewer. This seems to be the case with Plymouth and London; unless, indeed,

there should arise a doubt that bronchocele might have been usually transferred to the surgeons of the institutions, from which the statements are made, and did not, therefore, appear on the lists of Drs. Willan, Bateman, or Woolcombe. I can, however, refer to a more recent instance respecting which there can be no doubt, as the list includes the medical and surgical cases indiscriminately—I allude to the admirable Reports of the Birmingham Infirmary, published in the *Transactions* of the Association, by Mr. Parsons. In the Reports for the years 1832-3-4, in a list of 10824 cases, not a single case of bronchocele is recorded.

*Nyctalopia.*—This disease is markedly endemical in many countries. It is an extremely rare affection in Great Britain: I only met with a single case during my residence in Cornwall, and I heard of no other. The case of nyctalopia occurred in the person of a fisherman, aged 52, in the summer season. It was accompanied by, and apparently dependent on, gastric and intestinal disorder, as the man had been for some time affected with dyspepsia to a great degree, and also diarrhœa. It was irregularly intermittent, coming on after intervals of some weeks, and lasting from four to eight days.

*Colica pictonum.*—From the great prevalence of this disease in the adjoining county, in former times, so great as to obtain for it, as is well known, the name of Devonshire cholic, we should not have been surprised to have met with it in this district. It will be seen, however, that no case of the kind is recorded on the Dispensary lists; I myself never met with a case, nor could hear of more than one as

having been met with by any of the resident practitioners, except such rare spasmodic cases as are met with everywhere among painters.

Although not, strictly speaking, endemic diseases, yet as possessing some points analogous to these, particularly in the obscurity of their causes, and the variety of the degree of local prevalence, I shall notice, in the present section, two or three of the more important diseases to which mankind are liable, viz. scrofula, (including consumption, hydrocephalus, and epilepsy,) scirrhus, calculus and scorbutus.

*Scrofula.*—Under this head I propose to notice only those affections of an external kind, the nature of which is unequivocal, and which are commonly marked among surgical diseases, such as enlargement of the external glands, diseases of the joints, scrofulous ulcers, rickets, angular curvature of the spine, &c.

I am disposed to regard scrofulous diseases as of more frequent occurrence in this district, than in England generally: I am not, sure, however, if I am in possession of positive evidence sufficient to establish this position. Such an impression was made on my mind, during my residence in Cornwall, by the numerous cases that came under my notice in the Penzance Dispensary, and by the observations I had opportunities of making in private practice, and among the population generally; still, as I have just hinted, this general impression may not be in accordance with the actual facts. The point is one extremely difficult to be decided, and I am not sure that we at present possess documents of sufficient extent and authenticity to determine it.

In the Dispensary table the affections classed under the present head amount to about one-thirty-fifth part of the whole diseases; and the proportion might be considerably increased if we include cases of ophthalmia of a scrofulous nature, the great proportional prevalence of which disease I have already noticed. As, however, the disease termed strumous ophthalmia may originate in children having no original scrofulous taint, under circumstances of insufficient and unwholesome food, air, and exercise, and may readily disappear under proper management, without leaving behind it any fixed constitutional lesion or even predisposition, I have not thought it proper to class these cases of ocular inflammation under the present head. Their great prevalence, nevertheless, I regard as unequivocal evidence of much strumous predisposition in the locality where they prevail.

It appeared to me that the common external indications of the scrofulous constitution, visible in the complexion, texture of the hair, configuration of the body generally, and of the features of the face more particularly, were more marked among the inhabitants generally, and especially among the better classes, than in other parts of England, where I have had opportunities of observing the condition of the people; and I thought I could discover a larger proportional number of white swellings, incurvations of the spine, hip cases, and glandular tumours there than elsewhere. Of the very general and great prevalence of these diseases throughout the district, the answers of the resident practitioners, under the heads *scrofula, rickets, white swelling, hip*

*disease, spine disease,* are sufficient evidence; but their absolute proportional superiority in point of frequency, relatively to other districts, cannot be considered as established on the present evidence. Most of the surgeons had, at the period of my inquiries, some patients rendered lame by scrofulous disease of the hip and knee joints; some partially recovered; some still under treatment.

If it should be satisfactorily proved that scrofulous diseases are really more common in this district, some circumstances might be mentioned as possibly helping to explain the fact, and particularly two, viz. first, the very relaxing nature of the climate, from its great humidity and the singular equability of its temperature; and, second, the frequent intermarriage of families, from the confined and isolated position of the district. This latter circumstance is likely to operate in two ways,—first, by generating the strumous diathesis in healthy subjects, on the well known principle of breeding *in-and-in;* and, secondly, by tending to develope and strengthen the predisposition when already existing. There is no fact better established in physiological pathology, than that the offspring of parents, both of whom are touched with any hereditary malady or morbid predisposition, are likely to exhibit the same malady or morbid predisposition in a greater degree than either of the parents.

*Consumption.*—It will not be denied by any experienced pathologist, that the disease strictly termed phthisis, or consumption, or *tuberculous consumption*, is, in reality, one of the forms of scrofula; neither will it be doubted, although other diseases of the

chest are frequently classed under the name of consumption, that the great majority of cases classed under the head of phthisis in any of our public institutions, are really genuine examples of the true tuberculous consumption. It does not, however, follow, from this, that there is any necessary proportion in the degree of prevalence of scrofulous phthisis and the other forms of scrofula; on the contrary, it is possible that where the morbid diathesis manifests itself strongly in one form, it may do so feebly in the others. It would not follow, therefore, as a matter of course, that consumption must be a very prevalent disease in this district, even if it were fully established that external scrofula were so.

It is hardly necessary to remark, that my own observation, and the testimony of the local practitioners, go to establish the existence of consumption as a disease of very frequent occurrence; because it will be universally admitted that it is so in every part of England, and, indeed, it may be said, in every part of Europe, if not in the world. Without referring to statistical documents, I should say, as a general observation, that consumption is as prevalent in the Landsend district as in Sussex; and that it is more prevalent in both than in Scotland. I found it affecting all classes of persons, but in an especial manner miners. I shall have occasion, in a subsequent section, to enter more particularly into the nature of the consumptive diseases of the Cornish miners; it may suffice here to remark, that the opinion is universal among the medical practitioners of the district, that the genuine phthisis, slightly modified indeed in many cases, is of vastly more fre-

quent occurrence among miners, than in other classes of the community. The proportion of miners affected with this disease, and that die of it, for they all die, was variously calculated as 1 in 10, 15, 20, 30, 40, by the local practitioners. It is sufficient to observe here, that if the disease exists among the other classes of the community in the same proportion as elsewhere, it follows, as a matter of course, the nature of their mode of life being considered, that it must be *more* prevalent among miners, inasmuch as they have many additional causes of pulmonary disease to which the rest of the people are not obnoxious.

It will be observed that, in the Dispensary Report, I have classed hæmoptysis and consumption together; and although the former disease unquestionably may, and does exist independently of the latter, still the proportion of cases of pure hæmoptysis is so small as not greatly to vitiate the conclusions deduced from such a document. These give the proportion of consumptive cases to other diseases, as one in 29.7, a considerably smaller proportion, than was observed at London or Plymouth, at both of which places the proportion was nearly the same, viz. 1 in 19.7 in London, and 1 in 19.6 at Plymouth. Unfortunately, I am deprived of the surer test of prevalence on the large scale, namely, that of the relative mortality from the disease; but, as far as can be gathered from the obituary of the two parishes of St. Paul and St. Hilary, we may infer that although very considerable, still the proportion of deaths from consumption does not differ much from the mean of Carlisle, London, and

Plymouth.* In the case of the parish of St. Paul, indeed, if we include the deaths from *decline* with those from *consumption* (179 of the former and 18 of the latter, and there can be little doubt that the majority of the cases marked decline were, in fact, consumption) we have the proportion of deaths from this disease very nearly the same as at London and Plymouth, viz. 1 in 4.6. In the parish of St. Hilary, supposing the cases of tussis (7) and tabes (10) to have been instances of pulmonary consumption, the proportion of deaths from this cause, upon the whole number of diseases, is 1 in 11.3.; but rejecting those which are marked unknown, many of which must have been owing to tuberculous phthisis, the proportion is then 1 in 4.3. This, it will be observed, is less than the proportion usually given of mortality from consumption in recent investigations, Dr. Clark making the proportion, both in France and England, no less than one-third. I own I cannot bring my mind to admit so large a proportion for this country as one-third, fearfully prevalent and fatal as I know this disease to be; and the result of my general observation respecting the causes of death in my public and private practice, and among my friends and neighbours, during the last twenty years, is in some degree corroborated by the statistical results. The mean proportion of deaths from phthisis at Carlisle, London, Plymouth, and the Landsend, is 1 in 5.6.

It is the opinion of some of the older practitioners of the district, that consumption is more prevalent

* The relative mortality from consumption, at Carlisle, is 1 in 7 5; at London, 1 in 4.2; at Plymouth, 1 in 4.1; mean of the three, 1 in 5.3.

now than formerly; but no causes were given for the supposed increase.

In a subsequent part of this paper I shall have occasion to return to the subject of consumption, when noticing, more particularly, the diseases of miners, and examining the eligibility of the Landsend district as a place of residence for consumptive patients.

*Hydrocephalus.*—The propriety of placing this disease among scrofulous affections will probably be contested by many; but, I apprehend, the majority of experienced practitioners will agree with me in thinking, that by far the greater number of the hydrocephalic affections of infancy and childhood do occur in families of a decided strumous constitution. Although, then, it may be true that the subjects of these affections present no other morbid indication of scrofula, the constitutional predisposition suffices, in an inquiry like the present, to justify the present classification of hydrocephalus.

Hydrocephalus, like external scrofula, appeared to me to be of rather frequent occurrence in this district; but this was not the prevailing opinion of the resident practitioners. My Dispensary table makes the proportional prevalence of this disease not very different from that recorded in Dr. Willan and Dr. Bateman's tables for London. The degree of prevalence, by the Plymouth tables, is so very much less, that I am led to doubt their accuracy in this point. Certainly, during the period of my residence at Penzance, I met with a greater proportion of hydrocephalic cases than I have done since.

*Epilepsy.*—My own experience leads me to consi-

der epilepsy as a disease, if not peculiar to scrofulous constitutions, yet of decidedly more frequent occurrence in them than in other persons; and were this otherwise, the following very strong opinion of a most observant and experienced practitioner, would be to me sufficient reason for placing the disease in its present position: "I conceive (says Dr. Cheyne) that epilepsy is as certain a manifestation of the strumous diathesis as tubercular consumption, psoas abscess, hereditary insanity, or certain congenital malformations or defects of organization which are inherited only from scrofulous parents. I have no recollection of a case of cerebral epilepsy in a patient who, when due inquiry was made, did not appear to inherit a strong disposition to scrofula."* Be this as it may, I think I am justified by the tables, as well as by the result of my own observation and inquiries, to regard epilepsy as of very frequent occurrence in the Landsend district. Ninety-seven cases in seventeen years, or upwards of five annually, in a list of patients averaging between 500 and 600, is certainly a larger proportion of cases than I have been accustomed to observe elsewhere; and if the reports before referred to can be admitted as authentic evidence of the proportional prevalence of diseases at the places mentioned, epilepsy is less frequent, by one-half, at least, both at London and Plymouth.

*Tabes mesenterica.*—If the diagnosis of this disease were always unequivocally established, there could be no question as to the propriety of its classification among strumous affections. It is, no doubt,

* *Cyclopædia of Pract. Med.*, vol. II. p. 90.

however, true, that many cases have been so designated in which the mucous membrane of the bowels alone was the diseased part. I think, however, that if not all, certainly the greater number of the twelve cases ranged under this head in the Dispensary table, were, in reality, affections of the glands of the mesentery; and I am, therefore, disposed to regard this disease as more than usually common among the children of Penzance. At least, I can safely say that I have not met with it in so great a proportion since I left that place.

*Scirrhus and Cancer.*—I am unable to form a guess as to the comparative frequency of this disease in this district. The Dispensary tables, my own observation, and the testimony of the resident practitioners, all prove that the affection is of common occurrence. Most of the older practitioners had had from eight to twelve cases, at different times, under their care. The relative proportion of prevalence, in the Dispensary table, is, during my connexion with the charity, 1 in 91.5, and during the whole seventeen years, 1 in 210; and the relative proportion of fatal cases, in the St. Paul's obituary register, is 1 in 130. The number of cases of internal cancer appeared to me greater at Penzance than I have noticed elsewhere. The following is the analysis of the twelve cases recorded in the Dispensary books, during my administration: 1 of the lip; 1, eye; 1, uterus; 1, cardia; 4, pylorus; 4, mamma. The disease affected no class of the community in particular. None of the practitioners ever knew a case of genuine cancer cured by medical means.

*Calculus*.—This disease must, I think, be regarded as of very rare occurrence in the Landsend. During my residence there I did not meet with a single case; and only three cases are recorded in the Dispensary register in seventeen years, being in the proportion of only 1 in 3000 patients nearly. Similar evidence of the comparative infrequency of the disease was afforded by all the resident surgeons. The older practitioners had met with only one, two, or three cases in the course of a practice of forty or fifty years; none had performed the operation of lithotomy, and I could only hear of one case in which the operation had been performed in the district. Dr. Montgomery, who has resided in this district many years, informs me that he has only met with one case of stone in the bladder, and had been informed of two others; the former patient was a miner, the latter were not. This infrequency of cases becomes the more remarkable, when we consider the isolation of the district, and its remoteness from London or other large towns, whither patients might be transferred for operation. If cases originated here, many of them, at least, would still be found in their native localities, especially among the poorer classes.

In the excellent papers on the Statistics of Calculus, by Mr. Smith, of Bristol, and Dr. Yelloly, of Norwich,* much interesting information is given respecting the relative prevalence of calculous disorders in various parts of the kingdom, but little light is thrown on the causes of the difference. If bad sour bread were a cause, this, as we have seen

* *Med. Chir. Trans.* vol. 10; *Philos. Trans.* 1829–30.

in the former part of this paper, exists in abundance in the district of the Landsend; and if dyspepsia or disordered digestion, however produced, gave rise to it, as others imagine, we shall find hereafter how plentiful a source of this kind is found among the poorer population: its supposed connexion with scrofula, also, seems disproved by the frequency of this latter affection in the district. If pure air and water free from saline or earthy impregnation, tend to give an immunity from calculous depositions in the bladder, it must be allowed that this district possesses these advantages in great perfection.

*Scorbutus.*—I never saw a case of this disease, and it was equally unknown to the oldest practitioners: a very few cases of *purpura* were met with.

### IV. GENERIC OR CONTINGENT DISEASES.

*Diseases of the Brain and Nervous System.*—I notice under one head the several diseases thus classified together in table A 1. because I have little to offer respecting them in general, and still less individually. *Epilepsy* and *hydrocephalus* I have already noticed. It will be seen, on referring to the tables, and comparing them with the reports of Drs. Bateman and Woolcombe, that the proportion of cases of *apoplexy* and *palsy*, on the Dispensary books, came very near to that observed at London and Plymouth. I certainly was disposed to regard *palsy* as very frequent, and the obituary of St. Paul, which gives the proportion of deaths from the two diseases as 1 in 40, would seem to establish the great prevalence of both palsy and apoplexy. *Chorea* appeared to me unusually rare,

and this was the general opinion of the surgeons of the district, the oldest practitioners having only met with three or four cases in all their experience. No case was entered on the Dispensary books in my time. The proportion of such cases was, however, even less in London, though considerably greater at Plymouth. *Hysteria* was of frequent occurrence:* hypochondriasis less so. The case of *tetanus* seen by me originated in a wound. *Neuralgic affections* were of moderate frequency. I met with none of an intermitting character, or rather none which could be regarded as originating in malarious influence.

*Hydrophobia*.—Judging from my own observation, I should regard cases of this disease as everywhere of extreme rarity. In all my experience I never met with a single case. In this district, none of the practitioners had ever met with a case, though they had known of dogs reported mad, and *heard* of hydrophobia cases in the human subject in other parts of the country.

*Dropsy*.—The number of cases of dropsy in all its forms (excluding, of course, hydrocephalus) which are registered in the Dispensary table, appears to bear nearly the same proportion to the remaining diseases, as in the London tables of Drs. Willan and Bateman. I have omitted to compare the numbers

* The etiology of this disease seems strikingly modified by climate and national character. I was recently informed by a very intelligent medical friend, who had spent many years in *Mexico*, that hysteria is totally unknown among the better classes of females in that country, though their mode of life is such as would seem calculated to induce it. The Mexican ladies live almost entirely within doors, and eat enormously.

of the different forms of dropsy with one another in the different lists, and cannot, therefore, speak as to their relative prevalence, but it struck me at the time, and the same impression is conveyed now by an inspection of the Dispensary records, that the number of cases of anasarca was unusually large. The distinction of the forms of dropsy is only given for eight years of the seventeen included in the list, and the following are the actual numbers of each kind:—Anasarca, 62; ascites, 22; hydrothorax, 3. In the three years from 1819 to 1821, out of 1096 medical cases, there were 33 cases of dropsy, and of these no fewer than 26 were of anasarca. In the answers returned to me by the resident practitioners of the district, the great frequency of dropsy, particularly of anasarca, was generally recorded. It seemed doubtful, from the evidence afforded, which of the three diseases, dropsy (particularly anasarca), pulmonic inflammation, or acute rheumatism, was of most frequent occurrence. Dropsy appeared not to affect miners, or any one class of persons more than another; unless, indeed, we reckon *drunkards* as a class, and as the chief of them the landlords of public houses, the greater number of whom here, as elsewhere, fall victims to their intemperance, of which some form of dropsy is the most obvious result, although itself generally a consequence of some other disease. The frequency of dropsy in this district, seems also established by the mortuary registers both of St. Paul and St. Hilary, particularly of the former, in which it bears a proportion of no less than one in twenty of the total deaths.

Among the cases of anasarca observed by me at

Penzance, were several of the acute idiopathic kind, coming on in persons of unbroken constitutions, and passing off entirely under the use of bleeding and purging. In Dr. Montgomery's Report for 1833, he says, "A greater proportion than ordinary of dropsical affections have presented themselves [anasarca 16, ascites 3, among 670 cases], in a few examples arising from inflammatory action, but for the most part originating in debility."

*Hydrocele* was also regarded by the resident surgeons as a disease of rather frequent occurrence; and some of the older practitioners were of opinion that it had been still more prevalent formerly. It will be seen that 17 cases are recorded in the Dispensary tables, being on the average of one annually, or 1 in 500 cases of disease, including both the medical and surgical cases.

*Diabetes.*—This disease (the piss-pot dropsy, as it was called by the older authors—*hydrops ad matulam*) rare everywhere, I must regard as not more frequent in this district, although the numbers given under this head in the Dispensary list, and also in the table, of the relative prevalence of the diseases, would seem to indicate the contrary. During my residence at Penzance, I only met with a single case; and it appears that only one other occurred at the Dispensary during the eleven years subsequent to my leaving it. I must, therefore, regard the number of *six* cases, entered upon the Dispensary books in three previous years, as including some, at least, of the more common cases of *diabetes insipidus*, an affection of a totally different kind, and generally of only temporary prevalence. All the surgeons

regarded the disease as extremely rare, and equally so among miners as others.

*Gout.*—Here, as elsewhere, this disease is nearly confined to the classes of society not depending on bodily labour for subsistence. I have only one observation to make respecting its prevalence in this district, which struck me at the time as remarkable, and, if really true, is certainly deserving attention. Two of the oldest practitioners in the district, each resident in a small country town, assured me that, in their earlier practice, that is forty or fifty years before, gout was *much* more frequent than at present—in the proportion, they said, of a hundred to one! Has this remark been made elsewhere? If true, generally or partially, is the fact a consequence and a proof of the more general prevalence of temperate habits?

*Diseases of the Heart.*—I have no remark to make on this class of diseases, except to express my belief, founded partly on reasoning and partly on my own observation, that miners are more subject to organic changes of this organ, particularly dilatation, than most other classes of workmen. The causes of such a morbid state, in this class of persons, stand out prominently, both in their habits and diseases. The extreme strain on the respiratory and circulatory organs produced in the ascent from mines, described in the first part of this paper, and the chronic obstructions to the transmission of blood through the lungs, so frequent a form of disease in this class of persons, as will be shewn more particularly hereafter, are strikingly calculated to produce these affections. *Palpitation* is returned, by the

medical gentlemen in the mining district, as a very common complaint among miners. Here, as in other instances, I have to lament the want of a more discriminating diagnosis, and still more of cadaveric confirmation.

*Diseases of the Chest.*—I have already noticed the principal diseases of this class under the heads of catarrh, inflammation of the lungs, and phthisis pulmonalis. The only remaining affections of this cavity, that remain to be noticed are *chronic bronchitis* and *asthma*. And as these possess no peculiar interest, except as they occur among miners, I shall refer my notice of them to the section which is more particularly devoted to the diseases of this class of persons.

*Chronic diseases of the Alimentary Canal.*—I have already noticed most of the diseases of the intestinal tube, and the collatitious viscera, which seemed likely to be the result of endemic, epidemic, or atmospheric influence. I now proceed to make a few remarks on such as remain, and which, if attributable to any appreciable cause, must be regarded as more owing to circumstances in the constitution and mode of living of the individuals, than to any peculiarities of soil or climate.

*Dysphagia.*—The number of cases of this disease, entered upon the Dispensary lists, is, I apprehend, above the ordinary proportion; and I certainly was myself struck with the frequency of the complaint during my residence at Penzance. The same remark was made by one of my successors in the Dispensary. In the Report for 1832, Dr. Montgomery observes—"A few examples of obstruction of

the gullet occurred. This disease almost always ends fatally. From some inquiries I have made on this subject, there is reason for believing that it is of more comparative frequency in this than in the neighbouring counties." In a communication of later date, with which the same gentleman favoured me, he further observes on this complaint—"I have not observed this disease in young persons, but have seen it both in the temperate and intemperate. It has invariably ended fatally. I have examined some of the bodies after death, and found the upper part of the gullet filled, to the extent of two inches or more, with a firm semi-cartilaginous substance, with the remains of a passage not larger than a crow-quill winding in a spiral direction through it." I have not the means of verifying the exact nature of the greater number of the cases, but from what I observed myself, and from what is known of the general character of such cases, I think myself authorised to conclude, that the greater number, or sixteen cases, were examples either of chronic inflammation and thickening of the part, or of actual scirrhus. It is, indeed, so difficult, if not impossible, in many cases, to separate these two affections from each other, that it might, probably, be a preferable arrangement to comprehend them under one head, and extend the classification to the whole extent of the alimentary canal; thus including, under one head, stricture of the œsophagus and rectum, and scirrhus of the cardia and pylorus. I have, however, already noticed, under the general head of *scirrhus and cancer,* the affections of the cardia and pylorus of this description; it, therefore, only re-

mains to advert to the obstructions of the œsophagus: no cases of stricture of the rectum are noticed in our reports. The four cases of dysphagia that came under my own care, were all, probably, instances of the scirrhous stricture of the œsophagus; some of them were proved to be so by dissection; and the probability of the cancerous nature of these affections, is certainly increased by the fact that, during the same period of three years, I met with one case of scirrhous cardia, and four of scirrhous pylorus, among the same patients, 1096 in number. This makes the proportion of scirrhous affections of the œsophagus and stomach 1 in 120 nearly. If we reckon the whole cases of dysphagia recorded, as of a scirrhous character, and reckon only *three* of the cancerous cases included in the report from 1823 to 1833, as having their site in the stomach, (there are only three so named in the report of the physicians, although, possibly, others also included under the general name cancer may have had their site in the same part) we have no less than 33 cases of scirrhous affections of the œsophagus during the seventeen years, being 1 in 231 of the whole medical cases.

It is singular that dysphagia should be regarded, by the old practitioners of the district, as a disease of comparatively recent origin. The three oldest surgeons had each met with a few cases (all fatal) within the last ten years, and they did not remember to have met with any previously. May this fact, for I believe it to be such, be accounted for by the greater prevalence of *dyspepsia*, consequent on the distress and poverty produced by an increased po-

pulation and *bad times*, and the change of the more solid diet of former times (particularly among women) for the sloppy meals of these tea-drinking days?

*Dyspepsia.*—During my residence at Penzance, the proportion of cases of dyspepsia among the poor, that came under my notice, was much greater than I have met with in any other situation. The proportion of cases in three years, as recorded in the second column of the Dispensary table, was more than 1 in 5 of the whole diseases, viz. 1 in 4.8; and the proportion during the remaining two years of my residence was not inferior. It seems certain, however, that this proportion is beyond the average of what is observed in the district, since we find that the numbers received into the Dispensary, both previously and subsequently to my visit, bore a considerably less proportion to the other cases of disease. Indeed, it will be seen by the results of table A, that the average proportion of dyspeptic to other cases, during the whole seventeen years, is only 1 in 9—a proportion which is as much below that of the London tables as mine was above it. The marked increase of dyspepsia, in recent times, was corroborated by the testimony of the old practitioners, and they did not consider the increase as produced only by the recent distresses of the people, but as having progressively increased through the change of habits since the days of their early practice. All the resident practitioners considered dyspepsia to be habitually more prevalent among miners, than among the males of the other classes of the labouring population. Some attributed it to long fasting while under ground; others to the im-

pure air they breathed while there: both, probably, co-operated to produce the result.

The following extracts from my official Reports, printed annually with the Dispensary accounts, illustrate the causes of dyspepsia:—"The most prevalent disease, by far, during this and the preceding year (1819-20) has been chronic derangement of the digestive organs, or indigestion, in its various forms and degrees. This prevails chiefly among the *female* patients, and is in a great measure, perhaps, attributable to their sedentary habits, and scanty and improper diet." In the Report for 1821, it is stated—"The great majority of the disorders have been of a chronic character. Of these, by far the most numerous and important are the distressing complaints which are either immediately or remotely referrible to functional derangement of the stomach and other digestive organs. In the table I have classed them chiefly under the two heads of *dyspepsia* and *marasmus*, and they will be found to constitute nearly *one-fifth* of the whole of the medical cases. The great majority of these occurred in the persons of women, and some in children: in the former they can, in most cases, be traced to the effect of imperfect and improper nutriment. The daily food of many of these consists, *almost entirely*, of imperfectly baked *barley bread* and *warm water* (misnamed *tea*), a sort of diet which can hardly be expected to be long persisted in consistently with health, and which, in very many instances, I have ascertained to be directly the cause of the diseases above mentioned."

It is not difficult to account for the increased proportion of dyspeptic complaints during the years

referred to. Distress, during the greater part of that time, prevailed throughout the kingdom, partly from failure of the crops, and partly from the state of our trade and financial relations; and this was aggravated in a ten-fold degree in the Landsend district, by the total failure of the pilchard fishery, on which the great majority of the poorer classes almost entirely depended. These general and local causes did not exist, at least in anything near the same degree, in the previous or subsequent years.

It seems probable that the very humid and relaxing climate has some effect in giving rise to this complaint, even among the native inhabitants. I am informed, by Dr. Montgomery, that the wet relaxing weather so prevalent in winter, at Penzance, is very apt to induce dyspepsia among the strangers who resort thither during that season.

The causes occasioning increased frequency of the disease, seemed also to produce greater intensity in the individual cases. At least, I never witnessed, either before or since, such extreme derangement of the digestive and assimilative functions, as among my patients at the Penzance Dispensary. It may give some idea of the general character of the cases included under this head, to state that of the 228 cases in the second column, 74 only were examples of what is more properly called dyspepsia, viz. primary derangement of the digestive functions, while 119 were cases of what may be called *secondary dyspepsia*, or what has been sometimes named *bilious disorder*, exhibiting a much more extensive and profound affection of the whole chylopoietic viscera

and organs of assimilation: the 35 remaining cases were examples of inflammatory affections of the stomach, duodenum, or liver, consequences of this state, and sufficiently characterised by their local intensity to be in some manner segregated from it. It is proper also to state, that among the 143 cases in the first column are included the cases of infantile remittent (termed by the physician, Dr. Borlase, *worm-fever*), as well as others ranged under *cardialgia*. The foulness of tongue, thirst, depraved or abolished appetite, foul and fetid and discoloured dejections, and alteration, both as to quality and quantity, of the urinary secretion, were extreme and most remarkable. I was particularly struck with the immense flow of urine, which often amounted to a true diabetes insipidus, and was of very common occurrence. All these symptoms, and with these, feverish restlessness at night, and nervous agitation amounting almost to insanity, were often relieved in the most striking manner, and almost instantaneously, by a few doses of calomel. This remedy, in such cases, had often a more unequivocal and, indeed, astonishing effect than I have witnessed by almost any treatment in other diseases, if I except, perhaps, quinine in ague, steel in chlorosis, and tartar emetic in pneumonia. I regret, however, to add, that the relief was in general also very temporary, partly because the exciting causes of the disease were immediately re-applied, indeed, had never been removed, and partly, because I do not think I had recourse to the best means for securing the benefit I had obtained by such preliminary

treatment. I fancy that if I had now to treat such cases, and I now hardly ever see such, I could produce results much more satisfactory, by the better regulation of even the bad diet then in my power, and by the cautious and regulated use of medicines having a tonic effect on the digestive organs and the system at large. I was then more skilled in subduing the enemy by a *coup de main,* than in expelling him by systematic manœuvres, and keeping him at bay when expelled: like that of most young physicians, my practice was more of the heroic than philosophic cast.

I consider the cases marked in the Dispensary list, under the heads of gastritis and gastric irritation, gastrodynia, pyrosis, constipation and vomiting, as coming essentially under the same class of observations, and, indeed, all these, except the two last, have been included under this head, in estimating the relative prevalence of diseases.

During my residence at Penzance, I met with numerous cases of pyrosis, but never recorded it as a distinct disease. It, however, seems to have more attracted the notice of my very intelligent successor, Dr. Barham. In one of his reports (for 1826) I find the following striking remark:—"Another complaint which makes some figure on the list, and which we suspect to be of more than usually frequent occurrence in this part of the kingdom, is *pyrosis* or water-brash. This complaint, which destroys the comfort and debilitates the constitutions of many of our poor neighbours, especially among females, is commonly attributed to the effects of

poor watery diet. If that be, indeed, the true explanation, it is one which harmonises but too well with the situation of the poorer classes of this county, but which refers the evil to a cause which we behold with concern, but have little power to remove."

*Female diseases.*—The only diseases of this class in the Dispensary tables, that require notice, are those comprehended under the head of chlorosis and amenorrhœa. It will be observed that the proportion of cases so denominated is extremely great, being, in fact, nearly three times as great as in London, and more than one-half more than in Plymouth. It will also be observed, that the disproportion is entirely owing to the very great number of cases thus distributed in the first column of the table. Taking the two last columns only, we find that the proportion of such cases (even when those classed under *dysmenorrhœa* are included) to the total diseases, during the same period, instead of being 1 in 21, is only 1 in 25, or, excluding dysmenorrhœa, 1 in 30. Still, even this is a very large proportion, and I can only account for it by supposing that every case presenting any deficiency in the catamenial discharge was arranged under this head, without considering how frequently the amenorrhœa is a mere symptom of other diseases. I am borne out in this supposition by the result furnished by the second column, which gives the proportion only as 1 in 52. I do not doubt, but that if as rigid analyses had been instituted during the other years, as was done by myself in classifying the cases during these three years, the general result would have ap-

proached nearer to that last stated. It is, however, not improbable that these affections are more prevalent in this district, although not to the extent alleged; and that this increased prevalence may be owing to the greater amount of dyspeptic affections, of the more inveterate forms of which, amenorrhœa is often a consequence.

The same remark, I believe, will apply to the class of affections next to be noticed, *marasmus, infantile remitting* fever, *intestinal irritation,* and worms. As I have nothing particular to state on these affections, I shall conclude with a few remarks on worms and chronic eruptions.

*Worms.*—Dr. Paris, who resided at Penzance for a few years, considered worms as of very frequent occurrence in this district, and attributed the circumstance to an impoverished diet and the use of unsalted fish.* Whatever the cause may be, and I apprehend we may look no farther than the ordinary causes of dyspepsia, which we have found so prevalent, the fact seems fully established by the results of the Dispensary tables, which make the proportion of worm cases to the total diseases as 1 in 48, while in the London tables of Dr. Willan and Dr. Bateman it is only 1 in 141. I am unable to specify the kind of worms of which the list is composed, except for column second:—the 16 cases therein given were—lumbricus, 9; tænia, 5; ascaris, 2. This is an unusually large proportion of tænia, and a small one of ascarides.

*Cutaneous eruptions.*—I should have regarded the number of these complaints mentioned in the Dis-

* *Treatise on Diet,* 4th Ed. p. 159.

pensary table as uncommonly great, were it not that I find precisely the same proportion given in the London tables. Judging, however, from my own experience in other country towns, I should still say that the proportion of cases in Penzance was disproportioned to the size of the place, regarded as a country district. I have nothing to advance respecting their nature or history. Only in two years out of the whole seventeen comprehended in the Dispensary tables, are they arranged under distinct heads: they are as follows:—acne rosacea, 2; herpes, 1; lepra vulgaris, 16; impetigo, 3; porrigo, 2; pityriasis rubra, 4; psora, 13; psoriasis, 2; tinea capitis, 17; anomalous, 22; total, 82. They seemed to affect no particular class more than another. Admitting their frequency, we, perhaps, need to look no farther for the causes of this than to the poverty and consequent defective nutriment and clothing of the inhabitants, and to a general want of cleanliness among the lower classes, which is not altogether dependent on poverty. The following remarks on this subject, from the Dispensary Reports, are pertinent:—"The frequent occurrence of one disease (itch) which appears on the list, and which *one* cause alone can keep alive, gives us occasion to notice the importance of inculcating on our poorer neighbours the benefits of cleanliness. The more than ordinary neglect of this duty among the lower classes of Cornwall is matter of general observation, and the evils it entails on them are obvious. The connexion of cutaneous disease with this cause requires no comment."—*Rep.* 1827.—"It is gratifying to observe, that since our last meeting

the important subject of cleanliness among the lower orders has obtained increased attention. Still, however, much remains to be done. The numerous cases of scald-head, ringworm, and other still more offensive cutaneous complaints, which appear in the list, bear witness to the operation of the want of cleanliness."—*Rep.* 1828.

## SEC. II.—OF THE DISEASES OF PARTICULAR CLASSES OF INHABITANTS.

### I. DISEASES OF MINERS.

The statistical details contained in the first chapter of the second part of this paper, exhibit an extraordinary superiority in the rate of mortality in the mining parishes over the agricultural, and even those containing towns and crowded villages. It now remains to consider, in a more particular manner, the remote and predisposing causes, and the particular nature of the diseases, which occasion this increased mortality.

It may, however, be desirable previously to ascertain how far the results recorded, as deduced from the parish registers of the ages at which persons die, and from the parliamentary population returns of the numbers alive at each different age, are borne out and corroborated by the general and particular observations of medical men and others resident in the district, and by the results of my own experience and inquiries directed to this particular object.

1. It may be stated then, in the first place, that the opinion is universally prevalent in the district,

that mining is a very unhealthy occupation, and that miners are subject to a particular disease which affects great numbers of them and shortens their lives. This disease is generally known by the name of *the miner's consumption*; and its existence and great fatality are readily acknowledged by the miners themselves.

2. The examination of a body of miners, when assembled on any public occasion, cleaned from their ochry defilement and in the dress of the common labourer, impresses the observer with the belief that they are not healthy, and that they are much older than is really the case. It is stated by one of my medical correspondents, resident in a mining district, that an agricultural labourer at forty-five is almost as good as a miner at twenty-five, and the relative appearance of the two justifies this opinion.

3. My own inquiries among miners, and my repeated examination of this class of men, both individually and when collected within and about mines, under ground and *at grass*, have demonstrated the existence of diseases in a considerable proportion of them, which there was reason to believe would prove eventually fatal to all of them before the ordinary period of natural decay, and which diseases were almost all notoriously the consequence of their peculiar habits and mode of life.

The following table gives a view of the actual state of health of the men employed in a mine, from a personal examination made on the spot by myself, in the year 1821:

| Respective age of the men. | Number of years a miner. | Age when commenced mining. | Past and present health. |
|---|---|---|---|
| 29 | 16 | 13 | Generally good. |
| 45 | 30 | 15 | Occasional gastrodynia—otherwise well. |
| 55 | 40 | 15 | Subject to slight cough, and slight dyspnœa. |
| 36 | 27 | 9 | Occasional gastrodynia—otherwise well. |
| 41 | 25 | 16 | Formerly subject to dyspnœa—not so at present. |
| 18 | 6 | 12 | Health good. [good. |
| 32 | 12 | 20 | Subject to slight pain in the shoulder. Health |
| 30 | 20 | 10 | Subject to pain of chest, but has not dyspnœa. |
| 41 | 25 | 16 | Subject to bowel complaints last two years. |
| 25 | 10 | 15 | Health good. |
| 27 | 11 | 16 | Health good. |
| 50 | 45 | 5 | Has had slight dyspnœa for eight years. |
| 32 | 20 | 12 | Dyspnœa and occasional hæmoptysis for 8 yrs. |
| 37 | 24 | 13 | Good. |
| 60 | 50 | 10 | Dyspnœa during present and last year. |
| 38 | 25 | 13 | Good at present; says he had *liver disease* last yr. |
| 24 | 10 | 14 | Good, but subject to pain in left shoulder. |
| 21 | 2 | 19 | Subject to pain of stomach. |
| 17 | 1 | 16 | Good. |
| 36 | 24 | 12 | Subject to pain of bowels for last six months; |
| 19 | 5 | 14 | Good. [no dyspnœa. |
| 33 | 5 | 28 | Good. |
| 22 | 6 | 16 | Liable to fits last two years. |
| 37 | 20 | 17 | Scrofulous swellings of the glands. Health good. |
| 18 | 6 | 12 | Good. |
| 18 | 1 | 17 | Good. |
| 25 | 13 | 12 | Affected with dyspnœa a year and a half. |
| 27 | 8 | 19 | Subject to lumbago four years. |
| 43 | 26 | 17 | Dyspnœa (not severe) for fourteen years. |
| 37 | 20 | 17 | Subject to pain of bowels for six years. |
| 34 | 14 | 20 | Has pain on the left side of the chest. |
| 52 | 36 | 16 | Subject to dyspnœa for seven years. |
| 35 | 9 | 26 | Dyspnœa for two years. |
| 21 | 10 | 11 | Pain of chest (from previous inflammation) for |
| 32 | 16 | 16 | Good. [two years. |
| 35 | 20 | 15 | Good. |
| 36 | 20 | 16 | Good. |
| 53 | 30 | 23 | Dyspnœa for seven years. |
| 49 | 32 | 17 | Dyspnœa for three years; also subject to fits. |
| 31 | 20 | 11 | Good. |
| 33 | 17 | 16 | Good. |
| 29 | 14 | 15 | Had dyspnœa for some years, but not for last 5. |
| 27 | 8 | 19 | Pain in the chest for last 5 years; no dyspnœa. |
| 24 | 9 | 15 | Subject to occasional pain in the chest. |
| 22 | 2 | 20 | Good. |
| 23 | 10 | 13 | Good. |
| 22 | 11 | 11 | Subject to pain of chest, uneasiness or anxious feelings about the heart, for years. |

| Respective age of the men. | Number of years a miner. | Age when commenced mining. | Past and present health. |
|---|---|---|---|
| 28 | 12 | 16 | Palpitation of the heart for several yrs. Breath |
| 42 | 24 | 18 | Health good. [good. |
| 20 | 2 | 18 | Occasional pain in the bowels for five years. |
| 32 | 16 | 16 | Occasional dyspnœa for five years. |
| 25 | 8 | 17 | Pain of chest, last five months. |
| 46 | 27 | 19 | Subject to dyspnœa for the last six years. |
| 19 | 3 | 16 | Pain in the chest for some years. |
| 50 | 1 | 19 | Dyspnœa for two years. Has not worked for |
| 23 | 5 | 18 | Health good. [20 years. |
| 29 | 14 | 15 | Health good. |
| 33 | 18 | 15 | Subject to dyspnœa (slight) for eight years. |
| 26 | 12 | 14 | Subject to pain of chest and dyspnœa. |
| 25 | 9 | 14 | Health good. |
| 26 | 8 | 18 | Subject to pain of chest; no dyspnœa. |
| 30 | 16 | 14 | Subject to pain of stomach; health otherwise good. |
| 54 | 40 | 14 | Subject to occasional pain of chest. Health good. |
| 32 | 15 | 17 | Health good. |
| 40 | 20 | 20 | Subject to dyspnœa eight years since. Health |
| 26 | 8 | 18 | Good. [now good. |
| 19 | 5 | 14 | Good. |
| 19 | 5 | 14 | Subject to pain in the chest for twelve months. |
| 22 | 7 | 15 | Good. |
| 42 | 30 | 12 | Good. |
| 26 | 6 | 20 | Good. |
| 35 | 20 | 15 | Subject to dyspnœa for three years—slight at |
| 46 | 30 | 16 | Good. [present. |
| 26 | 6 | 20 | Good. |
| 27 | 5 | 22 | Good. |
| 40 | 25 | 15 | Good. |
| 22 | 7 | 15 | Good. |
| 30 | 20 | 10 | Good. |
| 26 | 9 | 17 | Good. |
| 17 | 2 | 15 | Good. |
| 18 | 4 | 14 | Good. |
| 29 | 10 | 19 | Good. |
| 34 | 15 | 19 | Good. |
| 34 | 12 | 22 | Good. |
| 33 | 16 | 17 | Severe dyspnœa with hæmoptysis for 14 years; the latter produced, he thinks, by carrying loads of ore. |
| 24 | 10 | 14 | Good. |
| 19 | 3 | 16 | Good. |
| 35 | 20 | 15 | Good. |
| 24 | 14 | 10 | Good. |
| 18 | 5 | 13 | Subject to dyspnœa before coming under ground, but the complaint aggravated since. |
| 29 | 7 | 22 | Good. |

| Respective age of the men. | Number of years a miner. | Age when commenced mining. | Past and present health. |
|---|---|---|---|
| 37 | 15 | 16 | Good. |
| 24 | 6 | 18 | Good. |
| 35 | 19 | 16 | Subject to pain of stomach; health otherwise good. |
| 20 | 7 | 13 | Good. |
| 26 | 10 | 16 | Good. |
| 27 | 9 | 18 | Subject to catarrh and dyspnœa ever since he remembers. |
| 26 | 7 | 19 | Subject to pain of stomach for 3 years. Health good. |
| 18 | 2 | 16 | Pain of chest and stomach. |
| 25 | 10 | 15 | Good. |
| 49 | 35 | 14 | Subject to dyspnœa and pain of chest for 16 years—now slight, formerly very severe. |
| 16 | 2 | 14 | Good. |
| 16 | 3 | 13 | Good. |
| 17 | 4 | 13 | Good. |
| 14 | 2 | 12 | Good. |
| 18 | 4 | 14 | Good. |
| 27 | 11 | 16 | Good. |
| 30 | 17 | 13 | Lumbago for four years; health otherwise good. |
| 26 | 9 | 17 | Good. |
| 42 | 25 | 19 | Good. |
| 42 | 20 | 22 | Good. |
| 46 | 30 | 16 | Subject to slight dyspnœa. |
| 45 | 30 | 15 | Pain in the chest for five years. |
| 23 | 8 | 15 | Good. |
| 42 | 28 | 14 | Dyspnœa and pain of chest eight years. |
| 25 | 1 | 24 | Dyspnœa, present before working underground. |
| 25 | 12 | 13 | Good. |
| 24 | 13 | 11 | Affected with pain of chest two years. |
| 29 | 20 | 9 | Affected with dyspnœa four years. |
| 24 | 8 | 16 | Good. |

The following results are deducible from the preceding table:—

A. Among 120 labouring miners, the state of health is as follows:—

| | | |
|---|---|---|
| Health good | | 63 |
| Affected with dyspnœa | 26 | 40 |
| ——— pain of chest | 14 | |
| ——— pain of stomach and bowels | | 10 |
| Lumbago | | 2 |
| Pain of shoulder | | 2 |
| Palpitation | | 1 |
| Scrofula | | 1 |
| Fits | | 1 |

B. Of those in good health—

| | |
|---|---|
| The average age is ..... | 25 |
| The average number of years of under-ground labour | 13 |

Of those affected with dyspnœa and pain of chest—

| | |
|---|---|
| The average age is ..... | 32 |
| The average number of years under ground ..... | 18 |

C. The actual distribution of the ages through the different periods of life, among 120 working miners, is as follows:—

| From 10 to 15 | 15 to 20 | 20 to 25 | 25 to 30 | 30 to 35 | 35 to 40 | 40 to 45 | 45 to 50 | 50 to 55 | 55 to 60 | 60 to 65 | 65 to 70 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 25 | 25 | 18 | 10 | 9 | 9 | 4 | 1 | 0 | 0 |

Thus, out of 120 men, 5 only, or 1-24th part, are found capable of active labour beyond the 50th year, and 40, or 1-3rd, are already affected with a disease which will, in all likelihood, carry them to a premature grave; corroborating, in a striking manner, the statistical results in the former part of this paper, viz. how small is the proportion of this class of men found beyond the middle periods of life.

D. It appears that a very considerable proportion of these men, viz. 10 (or 1-12th), are subject habitually to pains in the stomach or bowels; a circumstance well worthy of notice relatively to what we shall find the general opinion of the medical men of this district, as to the character of the pectoral diseases of miners, viz. its marked complication with dyspeptic symptoms.

4. The unanimous testimony of the whole profession, in the west of Cornwall, goes to establish the great comparative unhealthiness of miners, and the premature death of a great proportion of them from diseases occasioned by their mode of life. Perhaps

the most satisfactory as well as the most authentic mode of presenting this testimony to the reader, will be by giving a few extracts from the letters of some of my medical friends, in reply to some queries I submitted to them, bearing in a more exclusive manner on the health and diseases of the miners. If the remarks in some of these anticipate, in some degree, inquiries hereafter to be gone into respecting the nature of the pulmonary diseases of miners, it will, I conceive, be better to run the risk of repetition, than to weaken the impression conveyed by these documents. In regard to these, I think it but justice to the authors to state, that the letters were not written under the expectation of being published: being all, however, the productions of men of education and long experience, they will not be considered less valuable on that account.

*From Dr. Wise, of Helston.*—The first of the two following extracts is from a letter written so long back as 1824, and addressed to me from Edinburgh, to which place Dr. Wise had proceeded for the purpose of taking a degree in medicine, after having practised long and very extensively in the centre of the mining district of Cornwall. The second is from a letter dated in 1833, from Helston, in the west of Cornwall, in which place Dr. Wise has practised as a physician, since his graduation at Edinburgh. I make no apology to or for Dr. Wise, for the repetition, in the second letter, of several of the statements in the first, because this very repetition (of which, after so long an interval, the writer was unconscious) is a satisfactory proof of the strength of the writer's convictions, and of the accuracy of his statements.

*First extract.*—"The cases of phthisis pulmonalis which came under my notice during my practice in Cornwall, were very numerous. I have, indeed, witnessed this malady in, I believe, almost every variety both of shade and stage, and in every age from 15 to 60.

"With respect to that chronic form of the disease, or what in Cornwall has been called '*the miners' consumption*,' I should think that full three fourths of those who continued to work under ground to the age of 50, are, more or less, affected with it, and a great number die of it between the ages of 40 and 55. It seldom proves fatal in a shorter period than two or three years, in some instances going on to five or even to eight or ten years. During this time, there will be numerous aggravations of the disease, particularly in the winter season, and especially marked by increase of dyspnœa, always aggravated by bodily exertion, and more or less expectoration and some degree of emaciation These are, nevertheless, unaccompanied by the usual hectic symptoms, the pulse, for the most part, not exceeding 70, and being sometimes even as low as 50. The hectic symptoms, however, invariably came on for some months before death, the pulse at last reaching, and more frequently exceeding, 120, and the emaciation becoming extreme.

"This form of phthisis, however, I have witnessed in persons who never worked under ground, but much more rarely than in miners. It is not wholly confined to persons advanced in life, though I conceive the more rapid character of the true tubercular consumption is by far more frequently observed in younger patients.

"Very much, I am aware, has been said in regard to the vitiated air from noxious gases, gunpowder smoke, &c. so often encountered by miners in their subterraneous employ, as giving rise to pulmonary diseases; yet I have long thought that there is another cause which operates still more powerfully, not only in inducing chronic consumption, but also hæmoptysis, and, in the young scrofulous subject, tuberculous phthisis, namely, the mode of ascent from the deeper mines by the ladder—a practice which, under the most favourable circumstances, is, I conceive, highly prejudicial to health. I scarcely need inform you that the miners work two, three, four or five together, for six or eight hours at one time, when they are relieved by another set; though, perhaps, you may not be fully aware of the very imprudent way in which they climb their way up to the surface. I have frequently conversed with miners on this subject, and they have all given me the following account as that which is generally true:—Each miner having taken his portion of the blunted tools on his back, amounting in weight, perhaps to from fifteen to twenty pounds, the most active generally takes the lead, and, at whatever pace, is closely followed, along the horizontal galleries and up the perpendicular ascent of the ladders, by the rest of the party, not only from their desire to keep together, but to avoid a certain slur which would attach to any one falling in the rear. The rapid pace at which they usually set off soon hurries the circulation and respiration, and frequently to such a degree as to give rise to the most distressing feelings. At this time each would slacken his course, although

none dare propose to do so; and thus they go on till they reach "grass," when they find themselves completely overpowered by the excessive action of the heart and lungs, so as to be wholly unable for some time to speak. Is it surprising, then, that the miner, of all men, should be the most subject to hæmoptysis, and to pleuritic and pulmonic stitches, so constantly, in them, demanding the use of the lancet and blisters?

"That the heart, and the great blood-vessels thereunto appended, are often the seat of disease in the miner, the numerous examples of their irregular and disordered functions, so often terminating in hydro-thorax, and the frequent rupture of blood-vessels, too probably indicate. It would, indeed, seem to me altogether impossible that the whole circulating and respiratory systems within the chest, could long suffer such inordinate and preternatural actions with impunity. I conceive, also, that when the lungs have been thus over-excited, the full and quickly repeated inspirations of cold air, during the winter season, which the men are obliged to take immediately on reaching the surface, and to continue for some time, must act inimically on the delicate network of blood-vessels of the bronchial tubes. Such sudden changes must give rise to, and keep up, a degree of subacute inflammation, and consequent thickening of the mucous membrane of the bronchia, frequently obstructing their cavities, and that of the air cells, producing dyspnœa and expectoration, and ultimately terminating in the disease which I have termed chronic consumption.

"The mining district of Cornwall would, I con-

ceive, afford an ample field for a Laennec farther to illustrate and confirm his opinions, provided leave could generally be obtained for *post-mortem* investigations. I am sorry, however, to say, that on this point the common people are extremely prejudiced, insomuch that I have found it almost impossible to obtain permission to open a body."

*Second extract.*—"Miners are, unquestionably, more liable to disease than the agricultural labourers of the same district. Their appearance is more unhealthy, and they are also shorter lived. They are very subject to diseases of the chest, much more so than other labourers; and I may say, to every variety of disease of the chest, both acute and chronic, but especially the latter. I can hardly say they are subject to any *peculiar* disease of the chest, and which we do not witness in others. The prevalent affection is chronic bronchitis, attended with different degrees of dyspnœa, and more or less expectoration of a decidedly short, purulent character, and frequently offensive. The patient lingers on from one to four or five years, or even longer, and at last sinks, worn down to skin and bone. The pulse, during the first two-thirds of the illness, is slow, and often irregular, and invariably quickens some months before death. This *chronic bronchitis* may be called *the miners' consumption*, inasmuch as miners are more liable to it than others; but it differs much from the tubercular disease frequently termed consumption. In this last the progress is more rapid—the hectic more decided—the pulse more quick from the first—the expectoration more muco-purulent, more tenacious and less offensive. Miners often die

of the true tubercular phthisis, but, in this case, almost always before the age of 25. We occasionally observe chronic bronchitis in the young miner, but by far—*far* more frequently between the ages of 36 and 50.

"Miners are subject to every degree of dyspnœa up to the most confirmed asthma, to spitting of blood, hydrothorax, general dropsy, valvular and other disease of the heart and great vessels, &c. The last-named class of diseases are often the cause of the others, by deranging and obstructing the pulmonary circulation, occasioning extreme congestion, and even regurgitation of the blood, and thereby giving rise to organic lesion of the pulmonary tissue with all its consequences—inflammation, effusion, thickening, adhesion, rupture, &c. &c.

"The more than ordinary frequency of diseases of the heart and its great vessels, and of the whole pulmonary organs, in miners, I am, from long observation, convinced, may be fairly attributed to their occupation; but not so much to their actual labour, or to the impure air in which they sometimes work, as to *the hasty and imprudent manner in which they too often climb the ladders in ascending from the mines.* On these occasions so distressed are they who have been so inconsiderate, on reaching the surface, from the inordinate action of the heart, and consequent hurried and crowded circulation of blood through the lungs, as to be unable for some minutes to speak. It is very true they are not necessarily compelled to ascend so rapidly; but still, such is the force of emulation, as I have learnt from frequent conversations with captains of mines, and the men

themselves, that they will undergo this inconvenience, even with risk of life, rather than be outstripped by each other. That the heart and pulmonary organs, so intimately connected as they are, could bear this almost daily commotion with impunity, and without giving rise to structural disease, is more than we can easily imagine.

"I have been very fortunate in being allowed to make a great number of *post-mortem* examinations during the last seven years, but, I am sorry to say, the patients have not been miners. Helston is not immediately in the mining district, although a great many miners come to me from a distance."

*From Dr. Montgomery, of Penzance*—"I have very few opportunities of observing the commencement of miners' diseases: they are commonly in an advanced stage, or at least are of considerable duration, before they come under my cognizance. The following are the best replies I am enabled to make to your inquiries:—1. Miners suffer in various ways from their peculiar occupation.—2. Taken as a body, miners are, I think, more unhealthy than husbandry labourers or mechanics of the district: I have no correct data to enable me to state the proportions, but I am of opinion that they are more so in a considerable degree.—3. Independently of accidents, which are of very frequent occurrence in mines, miners are more short-lived than other labourers: *old* miners are comparatively few.—4. Miners, in wet mines especially, occasionally suffer severely from rheumatism. They are also very liable to diseases of the chest: these they frequently attribute to working in *foul* air.—5. The causes of rheumatism

and diseases of the respiratory organs, may be referred to the miners being frequently much exposed to wetness in the mine. In many instances the miners live at a considerable distance from the mine, and are often exposed to cold and rain in going to, and returning from, work. It is probable, also, that an insufficient dwelling may have a more injurious effect upon a man who spends one-third of his time in a close, sometimes heated, atmosphere, than upon others who are placed in a more equable temperature. An impure atmosphere, such as exists in mines, must, no doubt, act injuriously on the lungs.—6. Miners occasionally suffer from acute pulmonary diseases, but the most common form of disease is chronic bronchitis: to this disease they are peculiarly obnoxious. Phthisis and asthma are occasionally met with.—7. I am unable to give any minute details of *post-mortem* examinations, as the bodies which I have inspected were too few in number to warrant any general conclusions.—8. Consumption, by which I understand phthisis pulmonalis, certainly occurs amongst miners, but I should be more disposed to apply the name of miners' consumption to *chronic bronchitis*. I have observed, in many instances, that this disease is of very slow progress amongst the mining population: the disease often is present for a considerable time before there is much constitutional disturbance. Towards the conclusion the rapid pulse, perspirations, &c. are manifested."

*From Mr. Moyle, of Penzance.*—"Replies to Dr. Forbes' queries:—1. Miners, taken as a body, are *much more unhealthy* than agricultural labourers, or

other handicraftsmen of the district; but in what proportion it is rather difficult to determine.—2. Miners, taken as a body, are more short-lived than other labourers, and in such proportion as to make the circumstance a subject of common remark.—3. They are subject to particular diseases, which can only be attributed to their occupation. Being much exposed to wet and to variation of temperature, they are, of course, subject to the same diseases which we find to be produced in other labourers by the same causes—such as fever, rheumatism, bowel complaints, &c.; but it is from affections of the chest, in particular, that they suffer more severely than others of the same grade of society, but who are differently occupied.

"The diseases of the chest to which they are most liable, are phthisis (which is often met with in its most genuine form), asthma, hæmoptysis, pneumonia and bronchitis. But it is a variety of this last named disease, in the chronic form, which is the pectoral affection most frequently met with among miners. Of this complaint *dyspnœa is a very prominent symptom*, and there is often expectoration of a peculiar character: this, in many cases, never assumes the appearance of pus, but seems to be merely mucus with streaks of dark carbonaceous matter interspersed: there is little or no pain, but a frequent cough.

"Having never examined the body of any person who died affected with this peculiar secretion, I am unable to speak of its seat and origin. Is it likely to proceed from the bronchial glands? or is this carbonaceous matter thrown off in the air cells of

the lungs from the venous blood in the extreme branches of the pulmonary arteries?

"One great cause of the peculiar unhealthiness of miners is their working in galleries and shafts that are badly supplied with pure atmospheric air. In these the air is sometimes so *dead* (as the miners term it) that a candle held perpendicularly goes out in a short time; and the only way in which the miner can obtain light enough to work, is by putting two candles together and placing them horizontally. Of course there is here an imperfect supply of oxygen gas. No one can work long in these 'damps' without suffering from dyspnœa and cough; and from which the miners frequently date the origin of their malady.

"If the 'damp' be (as I have no doubt) the cause of the pulmonary affection just mentioned, and if the expectoration which I have mentioned be peculiar to it, I think there can be no impropriety in the term '*miners' consumption.*'"

*From Mr. Moyle, of Helston.*—"Replies to Dr. Forbes' queries:—1. Miners are *much more* unhealthy than any other class of labourers.—2. They are much shorter-lived. I should think that those who followed mining all their days, do not average a life of more than sixty years.—3. Miners are particularly subject to pulmonary affections, and to other diseases besides true phthisis, as pneumonia and asthma.—4. I consider that the long confinement of miners to an impure atmosphere is the principal cause of their unhealthiness. This, added to their frequent attacks of cold, from being exposed to constant wet during their work, appears to account for all their infirmities."

*Mr. Vincent, of Camborne.*—"I am of opinion that our miners suffer considerably from their peculiar occupation, and especially from the very unwholesome air they frequently breathe for several hours together, when working from 50 to 200 fathoms or more under the surface, in places where the powder smoke, after blasting, *lies* (as they term it) so that they can scarcely see each other, although almost in contact, and where sometimes the candles will not burn unless laid horizontally. I likewise consider that they are much more unhealthy than other labourers, and for many reasons, some of which I will enumerate. In the first place, miners who have large families, generally endeavour to take their sons to work underground with them at about ten years of age; these, at about thirteen or fourteen, are allowed to work as men, and as they are very fond of speculating (all miners preferring to work *on tribute* to *tut-work*—the former entitling them to a certain proportion of the ores they raise, the latter to fixed wages) they by this means frequently get a good deal of money in a short space of time; and often immediately afterwards take a wife, even before they have arrived at manhood. Secondly—they have frequently to walk two or three miles to the mines in very severe weather, changing their clothes for those worn the day before, on reaching the mine, often in a cold house; and when they go underground, they have frequently to walk for a considerable distance through cold water, up to their knees, before they reach their *pitch* or place of working. A third cause of premature old age, is the intemperate habits of the miners: they are too apt to drink spirits and

beer to excess, commencing this practice at the early age I have mentioned.* In places where the air is very bad in the mines, they are obliged to give the labourers a higher *tribute* to get them worked, and this stimulates the men to sacrifice their lives for the sake of gain. I have known a man belonging to a mine, where he had a good *pitch of work*, to go under ground on the Monday, and never appear on the surface again until the Friday following, when he had nearly worked out the time for which he agreed. He told me he had a two-gallon keg of cold brandy and water with him, and his food was fetched from his house to him by his son, who worked with him. This man and his son, in about three or four weeks, got upwards of £300.

"With respect to the diseases of miners, I think that pulmonary consumption, in one form or other, oftener ends their days than any other complaint. This is sometimes preceded by hæmoptysis, at other times by pneumonia; and the particular form of attack seems often to depend on hereditary causes: as their parents have been the subject of any particular disease, so are the children likely to partake of it. I have repeatedly observed, that the expectoration, in such cases, has a dirty blue colour, and is, in my opinion, quite different from that of persons in any other occupation. I have not had an opportunity of examining any miners who have died of

* "This habit of intemperance would, in my opinion, receive a check, if the men were paid individually at the mine, instead of four or five together, as is now done. In consequence of this sort of co-partnership, the men are driven to ale-houses and inns, in order to have their money divided, and where they are obliged to spend a certain poundage before they are accommodated with change."

consumption, their prejudices being very strong on this point."

*From Messrs. Gurney and Vivian, of Marazion.—(First letter.)*—"In reply to your queries, we beg to offer the following as our observations and opinions respecting the health of miners:—1. Miners appear to suffer from the kind of air they are forced to respire, from occasionally working with a constant dropping of water on them, and from the method they adopt in climbing to the surface.—2. We believe them to be more unhealthy than the other (agricultural) labourers of the neighbourhood.—3. They are more short-lived than agricultural labourers; in 99 cases, we dare say, out of the 100. An agricultural labourer at forty-five years of age is equal to a miner of twenty-five.—4. From their peculiar occupation miners are subject to diseases of the chest, acute and chronic: they suffer frequently, also, from abdominal diseases, and rheumatism.—5. The causes of the diseases of the chest to which miners are subject, are chiefly the following:—the air they breathe underground is of a high temperature, as well as bad in quality; in returning to the surface they climb the ladders very fast; the most rapid circulation is thus produced, and they are rendered almost breathless. A great change must immediately take place on their arriving at the surface, from the cold air.* The circulation having such a sudden check, the whole of the viscera of the thorax and abdomen are gorged with blood; and the daily repetition of this process produces

* The miners wash themselves on coming *to grass*, sometimes in warm, sometimes in cold water.

chronic disease of the affected parts: and this, we believe, is what is termed '*miners' consumption.*'

"If the miners continue to work in the deeper parts of mines, they become entirely disabled at an early age; if they get to a more shallow level to work, they get better, and continue so for a few years. If they entirely quit their occupation on first beginning to feel unwell, the parts recover themselves, and sometimes, we believe, perfectly. We are of opinion that no other labourers suffer in the same manner as miners.

6. "We have had no opportunity of examining the bodies of miners after death."

*Second letter.*—"The miners' consumption invariably commences with shortness of breath (and this continues to its termination) and without any acute pain. There is, after a time, a glairy, fluid expectoration, with a portion of greater consistence in the centre of the sputa. After a considerable time the expectoration is much increased, and is altered to a purulent mass of the consistence of thin bird-lime. We consider the black colour that sometimes marks the expectoration, to be owing to the accidental circumstance of the patient inhaling a smoky atmosphere throughout the day in his cottage.

"We seldom see in the true miners' disease hæmoptysis; although miners are occasionally so attacked. We have never observed the pulse to be much increased in frequency, at least in the earlier stages; nor are hectic fever and night sweats so great as in the latter stages of ordinary phthisis, but the emaciation is fully as much. The duration of the disease depends greatly on the length of time

the miners continue to work under ground after they experience the first symptoms. If they leave the mines early, they may survive many years. Diarrhœa is far from being a common symptom in this disease, while, on the contrary, constipation is prevalent. Aphthæ seldom are observed. We do not conceive that vomicæ, as they are called, form in the lungs in these cases; at least, we have never witnessed a sudden and copious expectoration of pus as if an abscess had formed. The decay of the patient is gradual and slow; they continue living and walking about, with all the symptoms of the disease but little increased, and with little or no pain, for one, two, three, or more years, before they finally sink We may here mention, that when bleeding is had recourse to in the earlier stages, the blood presents a buff of a blueish appearance, probably indicating a degree of inflammation not of a very active kind."

*From the Rev. George Treweeke, Rector of Illogan, (a mining parish.)*—"The proportion of widows is certainly much greater in the mining district than in agricultural parishes, but I cannot say to what amount. The population of this parish at the last census was 6070, and we have, at present, nearly 300 widows, the great majority of them being widows of miners; not to mention the many widows of such persons who have married again.

"As far as my own observation goes, I should say that the miners' consumption originates from working in bad air; the effects on the men depending upon its degree of foulness, and the length of time they have been employed in such situations. The early

symptoms are difficulty of breathing, and consequent difficulty of ascending the ladders. Sometimes fatal symptoms appear rapidly; at other times the man is able to work *at grass* for a considerable length of time after he is forced to leave the mine, and he sometimes lingers on for years. The latter stages are always attended with great difficulty of breathing, extreme wasting of the flesh, night sweats, hectic, and great expectoration. I think spitting of blood is not very common, but I have frequently seen men bring up clots of the colour and substance of liver. I am not aware that they complain of much pain in the chest. I have known some men linger for years, unable to do any work, or do anything more than crawl about the house and its immediate neighbourhood."

*From Mr. Doble, of St. Agnes.*—"The men generally give up working underground, after being attacked with the miners' dyspnœa, within three or four months; although there are some few who continue to work *at grass,* as they term it, (*i. e.* on the surface) perhaps for twelve or eighteen months after the first symptoms take place.

"The first symptoms which oblige them to discontinue working, are pain in the chest, difficulty of breathing, and great tightness, which render them unable, as they express themselves, to climb the ladders. There is also a considerable degree of lassitude. One of the most common symptoms in the latter stage, is a very great expectoration of a purulent nature; although, in many cases, I have observed from the commencement to the time of death, the expectoration to be entirely of a mucous kind.

There is, in most cases, hectic fever; although not so decided, but very similar to that of the common tuberculous consumption. There are very seldom night sweats of consequence, and scarcely ever diarrhœa; on the contrary, the bowels are generally constipated. I think, in eight cases out of ten, the pulse is not so quick and small, nor the emaciation so great, as in the common tuberculous consumption. Spitting of blood is not uncommon. In some cases there is no expectoration, the disease shewing itself more like atrophy. I have not observed any peculiar expectoration in the last stage. Dyspnœa is generally very much increased in the last stage; and the pain in the chest, and chiefly about the diaphragm, is sometimes so great that I have been obliged to give large doses of laudanum, henbane, or morphine. The average duration of the disease, after the hectic symptoms set in, I should think, is from six weeks to three months. I do not recollect more than two or three cases in which aphthæ made their appearance."

In addition to the foregoing interesting documents, I will put down here a few miscellaneous notes on the same subjects, collected during my frequent intercourse with the miners, when resident in Cornwall. I transcribe them, without arrangement or classification, from my note books.

*a*. "An old miner, of St. Just, informs me, that after being under ground for some time, at work in the *ends* (the *cul-de-sac*-extremity of the galleries), his expectoration is found to be quite black on returning to the surface, like the condensed smoke from the blastings with which the ends are filled.

In dry galleries, when there has been much dust and less blasting, the expectoration is ochry or coloured like the dust; and sometimes he has observed what was spit up to be so hard as scarcely to be compressible under the finger. He is of opinion that the mode of ascending the ladders is injurious to respiration, and tends to produce short breath."

*b.* A miner, who gives it as his opinion that it is *bad air* ("damp") simply, and not the impregnation of this with pulverulent particles that injures the lungs, adduces, in proof of the truth of his opinion, that the disease is equally prevalent in *wet* as in dry mines, in the former of which there is comparatively little or no dust.

*c.* The black spit from powder smoke is universal among miners, but never lasts twenty-four hours after returning from underground.—(J. Roberts.)

*d.* An old man, of St. Just, informs me that many miners are apt to sweat much while at work underground. He says all miners are less hardy than husbandmen, and eat less. He thinks that three out of every five miners, above forty years of age, have short breath and cough; and that a still larger proportion *die* before they are fifty, or even forty. He confirms the statement of the black sputa.—(H. Stephens.)

*e.* An old miner (Thomas Cox) says, that persons who have been for some time working in bad air, get faint and vomit, and have violent headache on coming into good air.

*f.* An old miner (Rowe) thinks that one-third of miners suffer from the asthmatical complaint.

The foregoing documents throw much light on the relative and actual condition of the miners, in regard to health; and on the general and particular causes of their diseases. They also clearly point out *affections of the chest* to be the great source of mortality among this class of men; and indicate, more or less distinctly, the general characters and symptoms of the particular pulmonary malady which is the chief instrument of their destruction.

Still further to illustrate the nature of this pulmonary affection, I now proceed to detail a series of cases, drawn up by myself from personal examination of the subjects of them. I regret, extremely, the incomplete character of these cases. They give no account of the latter stages of the disease, nor of the anatomical condition of the parts affected; and they are almost entirely silent on the subject of treatment. They will, however, I trust, be found still to contain details of considerable importance. In exhibiting, pretty fully and accurately, the symptoms of the earlier stages of the disease, they lay open to us its primary character, and enable us to form a pretty accurate judgment of the nature of the subsequent stages, and also of the probable condition of the organs at the period of the fatal termination. Many circumstances noticed in the cases also throw light on the causes of the diseases, and strongly corroborate many statements and opinions recorded in the communications of my medical friends given above. Some of the following cases were recorded by me in the journals of the Penzance Dispensary, from which they are now extracted: the remainder were taken down during my visits to

different mines, the subjects of them being at the time engaged in their usual avocations. This circumstance will account for the mildness of some of the cases, a circumstance, however, I may observe, which is far from detracting from their value, as data upon which to found conclusions respecting the causes and intimate nature of the disease. I shall begin by narrating the slighter cases, and advance progressively to the more severe.

Case I.—*(Incipient asthma.)*—W. Williams, æt. 25, belonging to Huel Neptune, son of a miner still alive and not asthmatical. Has suffered from slight dyspnœa during the last twelve months, but feels it only when he is climbing the ladders. He is perfectly well in other respects, except that he has palpitation of the heart occasionally: his appetite and digestion are good, and the pulse regular but rather quick. He considers the dyspnœa to have been brought on by climbing the ladders too fast, and also, probably, by *bad air*. He has worked for three weeks at a time in air so bad that the candles would hardly burn; and he thinks he may have worked, in all, twelve months, during his life, in bad air. The tongue is clean, and the fauces rather redder than natural. He has been bled several times for his dyspnœa.

Case II.—*(Slight bronchitic asthma.)*—William Hart, æt. 53. Has worked underground constantly for thirty-five years, and often in bad air. So long since as twenty years, he was subject to frequent colds, not severe, and lasting only a short time; but the frequency and also the severity of these attacks have much increased of late years. During the last

six years he has been affected with dyspnœa, and this has greatly increased during the last three; for the last twelve months he has been obliged to give up work entirely. He seems to have had an unusually severe attack of catarrh, evidently amounting to bronchitis, last winter. For many years he was not subject to cough, except during the attacks of cold; but for the last two or three years he has had a constant but slight cough, especially in the morning on getting up, and also a slight expectoration at the same time. While quiescent the dyspnœa is inconsiderable, but the least exercise excites it, and much exertion renders it extreme; and it is always much worse after eating. At present, in the interval of the attacks, the respiration, as examined by the stethoscope, is audible over the whole chest, and is unaccompanied by any rhonchus: (he has just been galvanized for twenty minutes). He is also affected with palpitation on exertion, and sometimes while quiescent. Pulse 84, soft and regular. Heart's action, examined by the stethoscope, regular, moderate, and natural. He sleeps well, but keeps his head somewhat higher than formerly. His appetite and digestion are, and have always been, good, and his bowels regular. Tongue clean; fauces red and flabby, and smeared with mattery secretion. He has some pain in the right shoulder. He is a good deal emaciated.

Case iii.—*(Bronchitic asthma, with permanent dyspnœa.)*—Thomas Moyle, æt. 50. Has worked underground more than thirty years, chiefly in copper mines, and not much in bad air. He remained in perfect good health until he had a severe attack

of inflammation on his chest, about three years ago, which confined him to bed four weeks, and since then he has been very subject to frequent attacks, which are evidently acute bronchitis, or what may be termed *bronchitic asthma*, commencing with great dyspnœa, dry cough, and pricking pains in the chest, and followed in a few days by copious expectoration, giving ample relief to all the other symptoms. During the intervals of these attacks he had no dyspnœa, as is the case at present. He is not subject to palpitation. His general health is quite good. Pulse 66, soft and full; tongue clean; fauces too red, congested and smeared with mattery-looking phlegm.

Case iv.—*(Bronchitic asthma, with fetid sputa.)*—Peter James, æt. 29, son of a miner, who, together with all his other children, sons and daughters, died of consumption. Has worked underground sixteen years, and was in good health until three years since, when he was quite suddenly attacked with pain of chest, great dyspnœa, violent dry cough, followed, after a time, by copious and *fetid* expectoration: this attack confined him to the house for two months He has had several seizures of a like kind since. He has never spit blood at any time, and has no dyspnœa in the intervals of the attacks. He is at present in good health. Pulse 66, and soft and regular; tongue clean; fauces red and flabby; bowels regular, always relaxed during the paroxysms, as is also the skin, he having great sweats at the time. He is in the habit of sweating greatly when at work underground.

Case v.—*(Slight dyspnœa, not paroxysmal.)*—M.

Trembath, æt. 50, Ding Dong mine. Has worked underground for nearly forty years, and often in bad air, but remained in perfectly good health until two years since, when he was first attacked by his present complaint, dyspnœa. This came on gradually, and has progressively increased; he having first become sensible of it in climbing the ladders. Contemporaneously with the dyspnœa there has been a very little cough, with frothy expectoration in the morning, and also a fluttering or palpitation of the heart, but only when climbing the ladders, going up hill, or over exerting himself. He has had several slight colds of late years, but only one sufficiently severe to keep him from his mine for three weeks He is now in good health, except for want of breath. Pulse 66, full and labouring. Sound of the heart perceptible over the greater part of the chest, (by the stethoscope). Digestion good; tongue clean; bowels regular. Trembath has always been in the habit of sweating much underground, and he thinks most miners do so; and he has often felt cold on coming to the surface.

Case vi.—(*First stage—miners' dyspnœa.*)—John Rowe, æt. 60. His father and grandfather, both miners, died dropsical, one at 60, the other at 74, after having long suffered, previously, from the miners' consumption. His grandfather's case, like his own, was a *dry asthma,* but his father had very copious expectoration. His mother died of consumption at 32, and his son was asthmatical at 15, before he went to work underground. Rowe suffers from constant dyspnœa, but this is greatly aggravated by catching cold, by rapid motion, and

by ascending. He has a slight cough, but expectorates very little, except on first rising in the morning. He thinks he was better formerly, when he had to walk some distance every morning to his mine, as the exertion made him expectorate.

Case vii.—*(First stage—miners' dyspnœa.)*—John Roberts, æt. 47, parish of St. Just, son of a miner who died at the age of 59, of the *miners' complaint*, after an illness of two years. John Roberts began working underground at 10, and retained his health perfectly for thirty-two years, *i. e.* until five years since, when he began to be affected with his present complaints. He worked in different mines, and in several in which the air was bad. At first he suffered from loss of appetite and dyspnœa, without any cough, for many months. The dyspnœa, however, gradually increased, and, in about twelve months, was followed by cough and expectoration. When the dyspnœa first came on, he found it only when working in *the ends*, or in bad air, or when greatly exerting himself, but as it increased, it then was present in all kinds of air. In little more than a year after his breath began to be affected, he broke his leg, and was, from this cause, rendered unfit for labour for nearly two years, and since this accident he has never returned to work underground.

The following is an account of his present condition and symptoms:—He is emaciated and sallow, and is very weak. There is great *dyspnœa* constantly present, but much aggravated by every kind of bodily exertion, and particularly by walking up hill or up stairs. Yet, when sitting quietly in his, chair, he seems to draw, when requested, a deep

breath without impediment; and while quiescent he says he still thinks he could work, but the least attempt at motion instantly dispels the illusion. Generally speaking he has very little *cough;* exertion, however, brings this on, and, *after* its continuance for some time, he then *expectorates,* but in general his expectoration is very inconsiderable and of a yellowish colour. He has never spit blood; and he has no pain in the chest. The *posture* of the body does not affect the dyspnœa at night; but although he says he can sleep with his head low, still he keeps it higher than before his illness. He does not suffer from *palpitation* except he exerts himself, and then he feels his heart fluttering "like a drowning thing." In his best days he has often had occasion to notice how violently his heart would beat while climbing the ladders of the mine, but its action now is very different. The *pulse* is 78, small, but natural and regular.

Both this man and Veale (case VIII.) say, that before they began to suffer from their present complaints, they could recover *instantaneously* both their breath and strength on regaining the surface, by standing still and taking *one* deep breath, but as the dyspnœa gained on them, the same relief could not be obtained until after repeated inspirations, and latterly not even then.

The *digestion* has been bad ever since the first invasion of the disease; the appetite is bad, and there is much flatulence; the præcordia are somewhat sore on pressure; the tongue is white, very foul, and with a very bad taste on waking. The dyspnœa is always increased by a full stomach. He is sub-

ject to ascarides. The urine is said to be natural. He sleeps very well at night, without any starting; but when he wakes he finds his breath husky and thick. Has no night perspirations. He feels always worse during the prevalence of the north and north-east winds, and is relieved by the south and south-west. Dry fogs do not affect him in any way.

Case viii.—*(Catarrhal asthma.)*—Wm. Veale, æt. 58, St. Just, son of a miner, who died at 55 of a complaint like his own, but which was in him only of twelve months duration, when it proved fatal. He began working underground at twelve years of age, and continued so employed until five years since (*i. e.* for forty-one years), when he was compelled by his present complaints to give up. When about 20 years old, he suffered for a time from severe epistaxis, but after that he continued in good health, and without any dyspnœa, until he was rather suddenly attacked with *the fever* which terminated in his present disorder. This fever, which, from his account, seems to have been attended by no particular local affection, kept him at home eight or nine weeks, and was followed, after an interval of a few months, by a short cough and dyspnœa, which have gradually increased until the present time. The expectoration was not much at first, but grew gradually more copious, and thick, and yellow, as it exists at present.

The following is the account of his actual state :—The *dyspnœa* is hardly perceptible when he is sitting and is quite still, but is induced immediately by the slightest motion, in a very considerable degree, and is still further aggravated by going up hill, or up stairs, or by attempting anything like free bodily

exertion. He can walk on level ground, and also descend a declivity with little inconvenience. His complaint is subject to frequent increase and decrease of severity, sometimes from obvious causes, sometimes not: he is always better in the summer season, and suffers greatly from cold. When it is bad, he expectorates about a quarter of a pint in the twenty-four hours. His sputa at present are muco-purulent, thick and yellow, and free; on waking in the morning the cough and expectoration are always more considerable; at times, when the cough is much more severe, the expectoration is white and frothy. Within the last two years he has spit blood occasionally, but not in great quantity, and never unless he had been over-exerting himself. The slight hæmoptysis is generally preceded by a slight pain in the chest. He is never attacked with violent paroxysms of dyspnœa, like those of spasmodic asthma. He can lie equally well on both sides, and on his belly, but not at all on his back, nor with his head low. He sleeps pretty well for several hours together; does not start suddenly from sleep, but is generally more *nervous* than formerly. His flesh and strength are very little affected, and he says he should be quite well but for his breath. His legs have never swelled.

The *digestion* seems to be good, and so is the appetite, and the bowels are regular. The cough sometimes produces vomiting. The tongue is somewhat coated; the roof of the mouth and throat are injected and flabby, and the mucous membrane of the throat is coated with a muco-purulent secretion. There is no tenderness on pressing the præcordia.

The urine and stools are said to be natural. The *pulse* is 70, soft, full, and regular: he has never experienced palpitation. The *skin* is soft, and he perspires readily on exertion, and he sweats a *little* every night. The *eyes* are of the natural colour.

The north and north-east winds always increase the tightness on the chest. The *dry fogs* also (which come chiefly with the north-west winds) affect him very much; but the soft misty rains from the south and south-west rather refresh him. Difference of food does not affect him; but he thinks *beer* (but not spirits) renders his breath tighter. Veale has been a temperate man all his life.

Case ix.—(*Bronchitic asthma.*)—Henry Stephens, St. Just parish, æt. 54, (*looks* 65), son of a miner who died of *a fever* at 44, but who had previously been slightly affected with dyspnœa. When 25 years of age he had an attack of inflammation of the chest (which he says was then epidemic) affecting the right side, and ever since he has been subject to one or two attacks, annually, of what, from his account, is evidently bronchitis more or less acute; but permanent dyspnœa has been present only five years. He has not been underground for three years, but it is only during the last twelve months that his complaints have been distressingly severe as at present. His dyspnœa is now permanent, but not very severe except on exerting himself, and particularly on going up hill or up stairs. He has always a very slight cough; but this, as well as his dyspnœa, is extremely aggravated during his fits, or "rages", as he calls them, of which he had six during the last twelve months, and each lasting about a fortnight. During

their presence the cough is violent and the dyspnœa great, the expectoration being at first white and frothy, and becoming, towards the termination, thick and yellow. At the time of these asthmatic or bronchitic attacks he has a feeling of tightness and slight pain in the chest, but not at other times; and then, also, he is obliged to lie on the left side, and with his head high: at other times he can lie equally well on either side, and with his head low. He has lost much flesh and strength; but the digestion is good and the bowels regular. The pulse is 84 and of regular character: he suffers slight palpitation on exerting himself. He sleeps well, except during the asthmatic paroxysms. He never spits blood. He has no night sweats. He is much worse in cold weather, and during north and north-east winds; and damp weather, and even rain with the south-west wind, is much better for his breath than the dry east winds. During his working underground he got very little wet in the mines.

Case x.—*(Chronic bronchitis, hæmoptysis, &c. Severer case.)*—Henry Cook, æt. 50, son of a husbandman-miner who died at the age of 60. Henry Cook worked at husbandry until twenty years old, and then for four years continuously underground; during the next ten years he worked three or four months in the mines, and the rest of the year at husbandry; and during the next succeeding ten or eleven years he remained entirely on the farm, but at the end of that time was forced, by want of success in husbandry to betake himself once more to the mines, which he finally left after two years. Until his last return to mining he was always in the

most perfect health, and was a remarkably strong man; but after having worked underground about twelve months he began to suffer from his present complaints, which, increasing, forced him to give up entirely at the end of the second twelve month. When he first felt his complaints coming on, he suffered from dyspnœa only when in the *ends* (particularly when there was much smoke, but also when there was no smoke) and when climbing the ladders. At this time he was otherwise quite well, had a good appetite, regular bowels, and no cough nor pain of chest or præcordia, and while in the open air his breath was pretty good. During the latter portion, however, of his time underground he became affected with a severe cough with a slight spitting of blood, and a severe pain in the pit of the stomach: and it was the violence of these symptoms which compelled him to abandon his labours four years ago. About three months after leaving the mines he began to spit blood in great quantity daily, to the extent of a tablespoonful at a time, and this sometimes eight or ten times a day, and this continued for two years: the average daily quantity might be about one or two tablespoonfuls. The dyspnœa became less after the establishment of the hæmoptysis, but it always remained very considerable. Shortly after the commencement of the hæmoptysis he became subject to looseness of the bowels, to the amount of four or five stools daily, and with some admixture of blood; and this complaint has continued to the present time, and has, indeed, become much more severe.

*Present symptoms.*—The dyspnœa is constantly

present in a considerable degree, but becomes greatly aggravated by the slightest bodily movement, and particularly by walking up any ascent. He says he feels so well when quiescent, that he "should make a very good gentleman"—meaning, that but for the necessity of bodily movement, he should hardly feel ill. Motion always brings on cough as well as dyspnœa, and the cough is frequent and severe. The expectoration is "very corrupted" he says, and is often bloody; and always when bloody there is great increase of the præcordial pain. He says, the act of stooping or leaning forward also brings on the bloody expectoration. He can sleep on the back with his head high, also on the right side; when he sleeps on the left he coughs much more, and the cough and pain of præcordia do not allow him to sleep more than two hours at a time in any posture. He suffers frequently from palpitation and violent fluttering, and occasional pain in the region of the heart, coming on, sometimes, when he is quiescent, but much more frequently during motion. The pulse is 72, regular, full and labouring. The appetite and digestion are unimpaired; but eating always increases the dyspnœa. The pain in the præcordia is confined to a very small spot, which is extremely tender on pressure. The bowels are extremely relaxed; the stools thin, frothy, intermixed with blood, and very fetid.

Case xi.—*(More advanced asthma.)*—Samuel Curtis, æt. 48. Went to work in the mines at 20 years of age, and continued at this employment more or less ever since, not quite regularly, but in

all twenty years at least. About eighteen years ago he had an attack of what he calls pleurisy, which confined him six weeks to bed, the seat of the pain being in the region of the heart. During the last fourteen years he has been affected with constant dyspnœa and cough, but never so severe as to prevent him from working. The cough has been, all along, accompanied with a good deal of expectoration of a whitish colour, and his breath has always been easiest when the sputa were copious. Ever since the attack of what he calls pleurisy (query, pericarditis?) he has been subject to frequent palpitation of the heart, often very severe, attacking him generally during exercise, but sometimes when quiescent. During the last six weeks he has been much worse than usual, with more dyspnœa, especially on going to bed, more cough, and more expectoration, after the first few days. There is no fever, the pulse is 66, soft and full, and regular; tongue clean, but dry of a morning; appetite good; bowels regular, but he has been affected with flatulence for a good many years; urine natural. He sleeps with his head as low as usual.

Examined by the stethoscope. The respiration is heard very distinctly over the whole of the left side of the chest, before and behind, and is everywhere accompanied by a muco-sibilous rhonchus, and perceptible at the very lowest part of the chest. The respiration and rhonchus are perceptible to the same extent on the right side, but both are less in degree. The action of the heart is natural, and confined to the cardiac region. After being galvanized for twenty minutes, the wires being placed

on the nape of the neck and præcordia, he thought his breathing freer, and the rhonchus was perceived to be decidedly less. Was this owing to the galvanism or the half-hour's quiescence? He had walked from some distance shortly before the examination.

Case xii.—*(Chronic bronchitis, more advanced.)* June 23, 1820, W. Thomas, æt. 55. Has been forty years a miner. When only eighteen years of age, he had a very severe attack of dyspnœa and pain of chest, which, he says, arose from his having worked nine months at once in *bad air*, and was cured, after lasting nine weeks, by two severe emetics. After this, still continuing to work underground, he remained well for twenty years. During the last ten years he has been affected with dyspnœa, which has been growing, from small beginnings, gradually, to its present state of severity, and has been long accompanied by a pretty severe pain in the right side of the chest, a constant and considerable cough, and copious expectoration, especially in the morning. He has no fever; the pulse is 60, and very soft and feeble, but full. He sleeps pretty well at night, but can rest on the *right* side only. The appetite is not good, and he is frequently sick at stomach; bowels regular, and there is no pain or swelling of the abdomen; tongue dry and white; he is not thirsty, but suffers from frequent headache.—To take an ipecacuan emetic occasionally, and a pill consisting of ipecacuan, rhubarb, blue pill, each a grain, opium a quarter of a grain, thrice daily.

July.—Is always relieved by the emetics, and also by the pills. Seems to have a *rawness* of the sto-

mach, as all acrid or stimulant ingesta give immediate pain. Pulse 60, very small; tongue loose and flabby and white. Perspires at night.

Feb. 1821.—His complaint seems progressively increasing. He has lost much flesh and strength, and the pulse is now 72, but he has lost his night sweats. The expectoration continues copious, and has lately been intermixed with blood. The appetite is good, and the bowels are regular; and he feels very well as long as he remains quiescent, except that the breath is short, but not at all distressingly so. The slightest movement, however, induces severe dyspnœa, and this is aggravated to an intolerable pitch by rapid motion, particularly that of ascent: at such times, but only then, he has also palpitation of the heart.

Case xiii.—*(Miners' asthma with puerile respiration, slight dilatation of the heart.)*—Edw. Williams, æt. 38. Nov. 2nd. Has worked fifteen years in the mines of Breague, but has been employed occasionally in summer in fishing. His health was good until about two years since, when he was attacked with a slight pain across the lower part of the chest in front, which was speedily followed by dyspnœa. This was first perceptible in climbing the ladders and when he was working hard, and the same exertions still cause a great aggravation of it; but it is now constantly present, and has become progressively more severe since its first invasion. Accompanying the dyspnœa from the beginning was a very slight cough; and this was unattended by any expectoration until a few weeks ago, since when he has expectorated a little *black* matter in the morning. The

pain of chest was never increased by coughing. The dyspnœa is greatly aggravated by motion; also after a meal, particularly a meal of potatoes. He has never had palpitation. The pulse is 73, regular, small and soft. He sleeps with his head as low as usual, and even *sounder* than before his illness, and he is more lethargic generally. He has no night perspirations, but he has been more disposed to perspire since his illness. He is extremely sensible to cold, and has been so from the beginning. Has had diarrhœa for twelve months, the stools at first, and for the greater part of the time since, very dark, without any pain of the bowels. The appetite pretty good but delicate, and the digestion seems good. The tongue is clean, but large and indented with the teeth. He has a disagreeable taste in his mouth in the morning.

Examined by the stethoscope, the respiration is found to be extremely distinct over the whole chest, both before and behind, even *puerile,* or at least still louder and more distinct than elsewhere, on the upper part of the left side exteriorly: it is throughout unaccompanied by any rhonchus. In the region of the heart, the impulse and sound are both moderate, and the latter is perceived as high as the clavicle on the left side, but very slightly; all along the sternum, however, the sound is very distinct, much more so than in the cardiac region, and even on the right side of the sternum it is louder than on the upper part of the left side. Fiat V. S. ad ʒxvi. Sumat pil. ex. ipec. et pil. hydr. āā gr. i. opii. gr. $\frac{1}{4}$.

Nov. 9.—Blood natural; derived no benefit from V. S. and has felt weaker since. Has brought with him some of the matter which he expectorates every morning; it is mucus tinged *perfectly black* with some colouring matter. The respiration is still very distinct and decidedly louder on the left side, and, as before, there is no rhonchus. Sound of the heart very loud, but impulse slight.

Dec. 14th.—Was again bled on the 24th ult. to eight ounces only, and the blood was then much buffed, but he has not been relieved by the V. S.

Dec. 18th.—Was galvanised at the last visit, and thinks his dyspnœa was less for some days after; but he has been worse since.

Jan. 1st.—Again galvanized, and he thinks with temporary relief, but he has been worse since.

Jan. 16th.—Gets weaker, pulse now 100.—Not seen afterwards.

---

[THE CONCLUDING PORTION OF THIS MEMOIR WILL BE PUBLISHED IN A FUTURE VOLUME.]

## APPENDIX No. V.

List of printed Queries transmitted to the Surgeons resident in the Hundred of Penwith, by Dr. Forbes, dated Penzance, July 20th, 1819.

[I publish these queries in this place, as they may possibly serve as a groundwork for the formation of a more complete list, by some of the members of the Association, who may be disposed to prosecute similar inquiries: they are too imperfect to be recommended as a model, although they were found, at the time they were drawn up, of much use.]

QUERIES.

1. Common infectious fever, (*Typhus—Nervous, &c.*)
*a.* Have you ever met with any cases of this disease?
*b.* Have you found this common in your practice?
*c.* Has it been more or less frequent of late years?
*d.* Has it been more or less fatal of late years?
*e.* How long, at any one time, have you known your neighbourhood free from it?
*f.* Have you observed any difference of character in it in late and former years?
*g.* Have you observed it to prevail more frequently in any particular season, or condition of weather, &c.?
*h.* Have you found any particular class of people more liable to it than others, e. g. miners—fishermen—farmers—children—&c.
*i.* Have you found any particular *places* particularly subject to it;—and if so—can you assign any reason for this?
*k.* Have you found any particular mode of treatment very successful?
2. Other fevers not contagious, (*Bilious—Nervous—Inflammatory, &c.*) Same queries (*b. c. d. e. f. g. h. i.*)
3. Intermittent fevers, (*Ague.*) Same queries (*b. c. e. f. g. h. i. k.*)
*l.* Have you known or heard that your neighbourhood was formerly more subject to this disease than at present?

*m.* Have your ever known miners or streamers affected with this disease, seemingly produced by the nature of their particular occupation?

4. Small-pox. Same queries *(b. c. d. e. f. g. h. i.)*

*n.* Have you inoculated many persons with small-pox of late years?

*o.* Has the disease prevailed much in the natural way?

*p.* Have the persons in your neighbourhood any or much prejudice against inoculation with small-pox?

*q.* Have the persons in your neighbourhood any or much prejudice against vaccination?

*r.* Has this prejudice augmented or decreased of late years?

*s.* How many persons may you inoculate, and how many vaccinate annually—or what may be the proportion of each?

*t.* Have you known any (and how many) cases of small-pox after vaccination?

*u.* Have you known any (and how many) cases of small-pox after small-pox?

5. Chicken-pox. Queries *(a. b. c. f. g. h. i.)*

6. Measles. Queries *(b. c. d. e. f. g. h. i.)*

7. Scarlet fever, *(Putrid Sore Throat, &c.)* Queries *(a. b. c. d. e. f. g. h. i. k.)*

8. Hooping cough. Queries *(b. c. d. e. f. g. h. i. k.)*

9. Croup. Queries *(b. c. d. e. f. g. h. i. k.)*

10. Inflammation of the eye. Queries *(b. h.)*

11. Phrenitis, *(Exclusive of that attending Fever.)* Queries *(a. h.)*

12. Common sore-throat, *(Quinsy.)* Queries *(b. h.)*

13. Inflammation of the lungs, *(Pneumonia, Pleuritis &c.)* Queries *(b. c. d. e. f. g. h. i.)*

*v.* Has this usually been a severe or fatal disease in your neighbourhood?

*w.* When fatal has it usually been so speedily, or by inducing suppuration and a species of consumption?

*x.* Have you found Miners particularly subject to this disease?

14. Inflammation of the bowels and stomach. Queries *(b. c. h. i.)*

15. Inflammation of the liver. Queries *(b. g. h. i. v. x.)*
*y.* Have you found this disease mostly in an *acute* or chronic form?
16. Inflammation of the kidney, bladder, and womb. Queries *(b. h.)*
17. Rheumatism, *(Specify acute and chronic.)* Queries *(b. g. h. i.)*
18. Gout. Queries *(b. h.)*
19. Hæmoptysis. Queries *(b. h.)*
20. Hæmorrhois. Queries *(b. h.)*
21. Menorrhagia. Queries *(b. h.)*
22. Catarrh. Queries (*b. h. x.*)
23. Dysentery. Queries (*b. c. d. g. h. i. x.*)
24. Diarrhœa. Queries (*b. g. h. i. x.*)
25. Apoplexy. Queries (*b. h.*)
26. Palsy. Queries (*b. h.*)
27. Palsy from lead, (*Devonshire Colic.*) Queries (*b. h.*)
28. Indigestion, (*Dyspepsia—Bile, &c.*) Queries (*b. h.*)
29. Locked jaw, (*Tetanus.*) Queries (*b. h.*)
*z.* Has it arisen from *wound* or other cause?
30. Epilepsy. Queries (*b. h.*)
31. St. Vitus's dance. Queries (*b. h. k.*)
32. Spasmodic asthma. Queries (*b. h. i. x.*)
33. Chronic asthma, (*Humoral Asthma—Constant Dyspnœa, &c.*) Queries (*b. h. i. x.*)
34. Colic. Queries (*b. h.*)
35. Painter's, or Devonshire colic. Queries (*a. b. g. h. i.*)
*æ.* What have you considered the cause of this?
36. Cholera morbus. Queries (*b. g. h.*)
37. Diabetes. Queries (*a. h. i. k.*)
38. Hydrophobia. Queries (*a. c. e.*)
*aa.* How many mad dogs have you known in your remembrance?
*bb.* Have you known any persons recover from this disease, and by what means?
39. Madness. Queries (*b. h.*)
40. Dropsy, (*Specifying the kind.*) Queries (*b. c. d. g. h. i.*)

*cc.* Which form of Dropsy do you find most frequent?

*dd.* Is it as common a disease as inflammation of the Lungs, or acute Rheumatism?

41. Hydrocele. Queries (*b. h.*)

42. Scrofula, (*Evil—Swelled and ulcerated Glands—Scrofulous Ulcers.*) Queries (*b. c. h. i.*)

43. Disease of the hip-joint. Queries (*b. c. h.*)

*ee.* Are there many persons in your neighbourhood *lame* from this cause?

44. White swelling, (*Of Knee, Ancle, &c.*) Queries (*b. c. h. ee.*)

45. Disease of the spine. Queries (*b. c. h. ee.*)

46. Rickets. Queries (*b. c. h. ee.*)

47. Consumption, (*Phthisis Pulmonalis.*) Queries (*b. c. d. g. h. i.*)

*ff.* Have you found this disease particularly prevalent among Miners?

*gg.* What proportion of Miners may die of this disease (in round numbers)?

*hh.* Is the Consumption of Miners different from the disease of other classes of people?

*ii.* Have you paid any particular attention to it, so as to be able to state this difference of character?

48. Cancer. Queries (*b. h. i.*)

*kk.* What form of this disease have you found most prevalent?

*ll.* Have you known any cases cured without operation? What? How?

49. Calculus, (*Stone in the Bladder—Gravel.*) Queries (*b. h. i. l.*)

*mm.* Have you operated or known any person operated on for Stone in your neighbourhood?

*nn.* How many? Any sent elsewhere to be operated on?

50. Hydrocephalus. Queries (*b. c. d. h. i.*)

51. Lues venerea, 1. *Gonorrhœa*, Queries (*b. c. h. i.*) 2. *Chancre, &c.* Queries (*b. c. h. i.*)

52. Sea scurvy, (*Excluding Cutaneous Eruptions often so called.*) Queries (*b. c. h. i.*)

53. Elephantiasis. Queries (*a. b. c. h. i.*)
54. Lepra, and other Scaly Diseases. Queries (*b. c. h. i. k.*)
55. Jaundice. Queries (*b. c. g. h. i.*)
56. Blindness, (*Amaurosis.*) Queries (*a. b. h. i.*)
*oo.* What have you fancied the cause of this Disease?
57. Cataract. Queries (*a. b. h. i. oo.*)
58. Night blindness, (*Nyctalopia—Hemeralopia.*) Queries (*a. b. h. i. oo.*)
59. Deafness. Queries (*a. b. h. i. oo.*)
60. Deaf and dumb. Queries (*a. b. h. i. oo.*)
61. Diseases of the bladder, (*Exclusive of Stone.*) Queries (*b. h. i.*)
62. Aneurism. Queries (*a. b. h. i.*)
63. Varicose veins of the leg. Queries (*b. h. i.*)
64. Chronic ulcer of the leg. Queries (*b. c. h. i.*)
65. Rupture. Queries (*b. h. i.*)
*pp.* Have you known many cases of strangulated Hernia Operated on?
66. Puerperal fever. Queries (*a. b. c. d. f. h. i.*)
67. Dysphagia. Queries (*a. h.*)
68. Vermes, (*Lumbrici—Tænia, &c.*) Queries (*a. b. h.*)
69. Palpitation, and other Diseases of the Heart. Queries (*a. g. h.*)
70. Bronchocele, (*Goitre—Cretinism.*) Queries (*a. h. i.*)
71. Mumps, (*Cynanche Parotidæa.*) Queries (*a. h. i.*)
72. Sciatica. Queries (*b. h. i.*)
73. Tabes mesenterica of Children. Queries (*b. c.*)
74. Any other Disease, or variety of Disease, of particularly frequent occurrence?
75. Are severe accidents common among Miners? What kind most common? Do fractured Sculls often get well? What proportion of deaths from accident may happen annually in the Mines with which you are connected?
76. How often may you have performed, or seen performed, the operation of Trepan? What proportion of Patients so operated on may have recovered?

PART IV.

ESSAYS AND CASES.

## ARTICLE V.

# PHYSIOLOGY AND PATHOLOGY

OF

# INTERMITTENCE.

BY CHARLES COWAN, M.D.E. M.D.P.

*Bath.*

WHETHER we contemplate the organic or inorganic world, we must admit that both are exposed to influences which are permanent in their application, and to others by which they are only temporarily controlled. No rational doubt can be entertained, that matter, from the first moment of its existence, has continued to manifest physical properties identical with those it at present possesses, while its vital attributes have been gradually accumulating through the ascending scale of organization. The powers of gravitation, affinity, cohesion, &c. are essential to the very existence of both, and their slightest interruption would entail inextricable ruin and confusion upon the whole system of the natural world. Vitalized beings are not only dependent, as material compounds, on the permanence of the laws to which

we have referred, but also on the perpetuity of certain functions peculiar to themselves, the cessation of which, for even a very limited period, constitutes their death. But a portion of the globe we inhabit may be resplendent with light, or enshrouded in darkness, the surface of its waters may rise or fall, cold and heat may alternate, the verdure of summer be contrasted with winter's dreariness, and yet no interruption to the course of nature be ever suspected, for the same regularity and intention are discoverable in her accidental as well as in her more constant phenomena.

In organized beings the senses may be unconscious of impressions from without, the workings of intellect be succeeded by the torpor of repose, and yet no interruption or want of harmony in the laws which regulate their existence be the consequence; the occasional activity of some functions being equally designed with the durability of others.

But while we can trace in the diurnal revolutions of the globe, in the obliquity of its axis, and in its various other physical conditions, the causes of succession, and can make the same application to many of the revolutions of the organized world, there are, on the other hand, facts equally alternating in their character, which refuse to be explained or classed with the preceding, and which form the more direct subject of our present investigation.

Before, however, we proceed to particular examples, it will be necessary to define what we include under the term "Intermittence." It has hitherto been regarded as synonymous with *periodicity*, and both have been used, indiscriminately, to express

the common idea of alternation, which, in fact, they obviously imply; but we think a more rigorous examination of their relative significations will prove, that they point out phenomena essentially different in their nature, and depending on a distinct class of causes for their production.

*Periodicity* I would define to be, the recurrence of certain phenomena, at either regular or irregular intervals, which are constantly reproduced by the renewed presence of the cause on which they originally depended—phenomena which would necessarily cease, were the same cause, or one capable of producing similar effects, never to return. Day and night, summer and winter, are evidently periodical effects, depending on the daily revolutions of the globe and its relations to the planetary system. Were these interrupted or in any way modified, corresponding modifications would take place in their effects, which may really be regarded as so many isolated facts, regular, it is true, in their order of succession, but complete in themselves and unconnected with either what has preceded, or with anything that may subsequently happen. If water congeals by the action of cold, and becomes fluid by increase of temperature, no regularity of intervals coinciding with its solidity or fluidity destroys the immediate and necessary dependence of these changes in condition on changes of temperature; and no repetition of the phenomena can perpetuate their recurrence one moment beyond that of the causes on which they primitively depended. The human frame is exposed to a variety of alternating influences arising from the physical conditions of

the globe, its diurnal revolutions, and the accompanying changes in the light, air, and temperature; but the effects of these influences, however regular in their repetition, are strictly periodical in their nature, for, with an exception hereafter to be noticed, they cannot be conceived to exist independently of the cause.

By *Intermittence* we understand a succession of similar or nearly similar phenomena, regular or irregular in their periods of activity and repose, not resulting from the repetition of influences from without, but from some functional peculiarity inherent in the organs themselves. By this definition we at once set aside the consideration of those annually recurring changes in the inorganic and vegetable world, arising from causes to which we have already referred; as well as all those healthy or morbid modifications of the functions of animal life, which are the simple result of altered external conditions, on whose presence they essentially depend for both existence and reproduction.

The philosophers who trace nothing in organization, but the necessary results of influences variously combined, impressing upon matter an arrangement which adapts it to discharge the functions most frequently required, will probably see nothing in intermittence, but a consequence of the alternation of light upon the surface of the globe, which, in the progress of time, has rendered habitual a functional peculiarity that, in its origin, may be referred to a species of irritation. But not stopping to contest an hypothesis so incapable of proof, and so completely at variance with the evidence of revelation,

we shall content ourselves with the fact that intermittence exists, and endeavour to discover on what system or systems its manifestation depends.

In proportion as we descend the scale of animated beings, the beautiful arrangement of organs and functions seems gradually lost and confounded, and we arrive at a point where an apparently simple and homogeneous structure monopolizes within itself functions, which, in the higher classes, are discharged by separate and distinct organs. Life is here a continued action and reaction, and no intermittence can be traced; nature seems, as it were, performing an experiment in the great work of creation, preparatory to the existence of more complicated beings; and if we trace each system from its simplest to its full and complete development, with one exception, we shall find that intermittence is alike incompatible with every stage of its existence.

From the oscillations of fluid in areolar tissue, to the formation of vessels, and lastly, to the complicated apparatus we find in ourselves, we discover in all these various gradations of the same function, permanence of action equally preserved. The apparent exception to this fact in the contraction and dilatation of the heart, must be regarded rather as a necessary physical condition, from which it could not deviate without neutralizing the design of its formation, than as a functional peculiarity; but whether this explanation be accepted or not, no doubt can be entertained as to the circulation being essentially permanent wherever it can be traced, and the local exception to which we have adverted, occurring, as it does, in the highest point of the

scale of vascular development, is incapable of extending its influence to the function over which it presides, or at least of impressing it with its own peculiarities. The gelatinous surface exposed to the contact of air, the more organized skin, the pores with which it is pierced, the branches of the fish, the vesicular lung of the batrachian, and the more perfect organs of mammalia, are but modifications of one and the same system, which never, in their physiological conditions, deviate from the continuity of action which characterizes the circulation.

There is no reason to suppose that the act of nutrition, and its consequences, are essentially different in animals of simple or complex formation. Secretion and excretion, though varying in their degrees of activity, are no where functionally intermittent, but commence with the first germ of existence, and only terminate with death.

Digestion, no doubt, would at first be regarded as a function essentially illustrative of the phenomenon in question, at least in the higher gradations of animal life; and to a certain extent it is so; but a very casual examination will prove, that it is only in those processes of digestion which depend for their completion on the exercise of volition, that the peculiarity we are considering can be traced. The prehension of food, its mastication, and deglutition, are, indeed, invariably associated with intervals of repose, their activity being secondary to the act of volition itself; but where the voluntary organs are wanting, no doubt can be entertained as to the permanency of what essentially characterizes the function of digestion, viz. assimilation; and how-

ever its activity may vary, from the uncertainty of supply, yet it never really terminates so long as life lasts; for when materials from without are withheld, we may be literally said, as Dr. Prout has ingeniously remarked, to digest ourselves. The periods of inactivity to which the digestive tube is occasionally subject, particularly in man, are evidently not arising from a functional attribute, but either from a dependence on a system, which we shall prove, in its higher manifestations, to be incapable of perpetual activity, or from the impossibility of external supply: these periods are not, therefore, to be regarded as examples of the phenomenon now under consideration.

There is yet another function still more distinguished by intervals of activity and repose, but to which we equally refuse the attribute of intermittence: we refer to *Generation*. In the vegetable world, where it forms the end and aim of existence, it is distinctly under the dependence of external modifications, and its seasons of activity are strictly periodical. Through many of the lower gradations of animal life, it continues equally dependent upon external physical conditions, and may be indefinitely dormant, or roused into precocious activity by the irregularity of influences from without. As we ascend, it becomes gradually more and more incorporated with the animal itself; more and more subservient to the act of volition; and, in man, acknowledges the supremacy of the moral and intellectual powers. By the power of conscience it may be indefinitely controlled, the periods of its activity may be fixed, and, in the well regulated mind, its

dependence upon the central organs of volition is indisputably proved. The creation of an immortal being was united with man's moral responsibility, and not left to the dictates of periodical necessity. The power is absent during the first years of existence; becomes active in proportion as the individual reaches the highest point of development; and is the first to disappear at the approach of age and infirmity.

The last and most important part of our organization, in reference to the present enquiry, is the Nervous System, to which we have already so often alluded.

Though apparently absent in the first rudiments of animal existence, it is difficult, we think, to refuse to a being endowed with sensibility, something equivalent to a nervous system; on the same grounds that we do not hesitate to admit the existence of other functions, although incapable of detecting the precise structure by which they are discharged. Wherever sensibility exists and a nervous system can be traced, their mutual dependence is evident; and since there is no reason to suppose that an effect so peculiar and so different from the properties of inorganic matter, can be produced independently of a special organization, and since the nervous system, when present, is strictly identical in its nature throughout the whole class of animated beings, we think ourselves justified in concluding that it is inseparably connected with all animalization. The division of life into organic and animal, by the immortal Bichat, has rather for its object to classify the important phenomena it included, than

to prove them essentially distinct. They may be said to form links of the same chain, the extremes of which are incapable of comparison, but, which when traced from its origin to its termination, forms a continuous whole. For instance, the skin, which in the fingers exercises the sense of touch, in its progress to the mouth, pharynx, and œsophagus, seems gradually to lose its animal, and to be insensibly transformed into what we understand by organic, sensibility; favouring the impression that one is merely a degree of the other, a fact which many morbid phenomena tend to confirm.

Life, in its earliest manifestations, seems purely organic, and the sensibility which accompanies it is equally permanent with all the other functions. The animal life by degrees becomes evident, and organs of sense and locomotion, which at first seem nothing more than adjuncts to the systems which have preceded, are gradually multiplied in proportion as the voluntary relations with external objects are extended, or, in other words, proportionably to the development of the nervous system, of which they are but the manifestations. It seems, at first, a simple extension of organic life, ministering to the wants and widening the capabilities of the latter, and yielding to the condition of permanent irritability. But in tracing its progress through the higher gradations of animal existence, we soon find it endowed with properties incapable of being classed with those we have hitherto considered—properties susceptible, as it were, of a separate existence, while closely associated with the regular discharge of all the inferior functions.

One of the most remarkable peculiarities is the necessity for periods of *repose,* of cessation from movement, and of insensibility to external impressions. These periods, almost, if not entirely, absent in the first rudiments of animal life, become gradually prolonged and distinct as we ascend, and are additionally necessary in proportion as organization approaches its highest point of development. They are not, as in the examples we have hitherto examined, the result of certain external physical changes (though in the great majority of cases they coincide with them), which by their more or less regular recurrence, induce a corresponding increase or decrease of functional activity, but arise from a condition of organization itself, a condition only common to one portion of our frame, considered physiologically, viz. to the nervous system which presides over the functions of animal life. No one supposes that the circulation or respiration ever ceases to be active, although they are undoubtedly modified by a state of repose of the rest of the body. Should one or the other cease, life becomes impossible, and we can form no idea of a living being independently of their influence. But when the moral and intellectual faculties, the power of locomotion, the voice, the sight, the hearing, the smell, and the touch, become inert, we never imagine that life is extinct, but regard this temporary cessation of all our voluntary functions, as a natural consequence of their dependence on the activity of certain central portions of the nervous system, to which we tacitly concede the fact of intermittence, though often forgetting to view it in the light of a functional peculiarity.

We do not possess, over this portion of our frame, as is the case with digestion, the discretionary power of rendering its action permanent by the constant addition of stimuli, or even of exempting it for more than a very limited period from the law which nature has imposed, and from which, pathology itself, so fertile in changes, has produced but very limited deviations. The cynical philosopher of modern times, who revolted at this oft recurring oblivion of his perverted talent, was soon practically convinced of his subjugation to the law which veiled his senses in forgetfulness; and the schemes of ambition, or the accents of devotion, are equally incapable of uninterrupted activity.

Having thus endeavoured to discover, in this rapid survey of our different systems, the one to which intermittence could be functionally ascribed, we think ourselves justified in concluding that it is only manifested physically by the nervous system presiding over the animal life; and since in man the latter has arrived at its maximum of development, we ought to find in ourselves the most striking example of the phenomenon in question. The intellectual and moral manifestation may be regarded as at once the type of intermittence, and the highest function which organization can accomplish.

Their subservience to the remarkable law we have endeavoured to localize, has never been more than very temporarily infringed, and whatever opinions we may form as to the cause of the intermission, we are forced to admit that it is inseparably attendant upon the exercise of the higher phenomena of innervation.

How singular that the noblest attributes of man should be thus circumscribed, while all his lower functions pursue their unvarying course from life's first dawn to its termination! that his very organization should thus hold under its dependence the activity of faculties, for the exercise of which he was created! that in devotion to his God, and in seeking the welfare of his fellow man, he should be checked by a physical necessity which his Creator has imposed! that intellect the most refined, imagination the most ardent, and morality the most exalted, should be subjugated to the law of intermittence! Genius has but its moments of inspiration; imagination of its fervour; and devotion of its purity; as if organization was exhausted under influences so immeasurably superior to every other, and required a long interval of repose before it could again become capable of their retransmission.

But without pursuing into their details, reflections which would admit of many interesting applications to the frequently wayward workings of superior intellect and poetic inspiration, we shall content ourselves with this rapid examination of intermittence as a healthy condition, and proceed to inquire whether the same peculiarity can be traced in a pathological state, and what are the particular affections most liable to manifest its presence.

Accurate knowledge of the cause of intermittence, and of those periodical exacerbations so universally accompanying the progress of disease, would, no doubt, be productive of important therapeutic indications, or, at least, elucidate much that is now obscure and unsatisfactory. The latter, though often

investigated, still lie open to much interesting inquiry, but we have shown that they do not form part of what we are more immediately considering.

May we answer the inquiry, of what diseases are most characterised by intermittence, by laying down as an axiom, that we ought not to ascribe a function to any system whatever, which in no grade of its organization physiologically manifests it? Do we find that disease does more than heighten, diminish, or pervert the vital actions of the body? The various morbid secretions are only modifications of the same act under different influences; and from their gradual departure from a state of health to their equally gradual return to the standard from whence they deviated, we have only a modified state of something already existing. In no instances do we see the different systems of our frame acquire properties entirely foreign to what they evidenced in a state of health; their *modus operandi* is essentially the same, however variable the results; and we think the principle may, with equal justice, be admitted with the preceding, that all pathological phenomena are to be referred to those particular systems which present something analogous in their healthy manifestations.

Intermittence, therefore, whenever it is present, as a pathological system, may be regarded as an indication of a lesion, primitive or secondary, of certain portions of the nervous system; for it is only here, in the absence of disease, that any trace of its existence can be detected.

Having before glanced at the identity of all innervations, whether animal or organic, regarding them

rather as degrees of the same principle, than essentially distinct, and having, I think, proved, that in the former, alone, intermittence can be physiologically discovered; may we not carry on the inquiry, and, from the fact that certain pathological causes develop in our organic life a sensibility, characterised at least by *one* of the peculiar features of the animal life, viz. being perceived by the sensorium, that the same causes, or others of greater intensity, might excite in the lower grades of innervation what, under ordinary circumstances is invariably confined to the higher?

It is well known that pain is an almost constant attendant upon acute inflammation; that the sensibility is increased, and that we become conscious of the existence of particular portions of our body, which, in a healthy state, convey no sensible impression to the brain. What is this but the presence of an exciting cause, endowing the organic sensibility with one of the specific characters of the animal? and is it absurd to suppose it possible that, under the influence of certain stimuli, the nervous energy may be so increased in its utility, as to require the same intermission in activity as is necessary for the higher functions? That this is actually the case will, I think, appear, from a casual examination of our different organs in connexion with their mode of innervation. Pursuing the principles which have hitherto guided us, we should *a priori* expect the phenomenon of intermittence to be morbidly produced in those organs whose nervous filaments most intimately associate them with the cerebro-spinal centres. Is not this the case with the lungs,

which form such an evident intermediate link between the animal and organic life. What affection is more intermittent in its character, than the uncomplicated form of asthma? What diseases are more liable to alterations of intensity, than pulmonary affections generally? The cerebral and ganglionic nerves distributed to the stomach, expose that organ, when morbidly affected, not only to pain, but frequently to the manifestations of distinct intervals of calm and exacerbation. The heart, though similarly supplied, and very susceptible of manifesting *pain* when morbidly affected, is, on the other hand, from the decreased predominance of cerebral innervation, less easily affected with intermittence; and in the absence of exact observations respecting neuralgic affections of the different viscera, we would venture to predict, that while they presented the common character of *pain, intermittence* would be frequent in proportion as they were more or less intimately connected with the higher portions of the nervous system. There is no particle of organization entirely depending for its nervous supply on the ganglionic centres, so that it is impossible to decide whether, under any degree of irritation, this system is susceptible of intermittence; but its gradual development, its early existence in the animal scale, and its close association with the necessary organic functions, would tend to the conclusion that it was not; while, perhaps, we may refer to it those anomalous and *continued* pains, which are evidently not depending on local inflammation.

We are inclined to the opinion that all intermittent diseases may be regarded as either primary or

secondary affections of the cerebro-spinal system, though from what has preceded, it will be seen that we do not sanction the inference so universally admitted, that all nervous pains are intermittent. It will be quite unnecessary to direct the attention of the reader to those neuralgic affections, whose seat, nature and progress, are universally known, but we shall seek an illustration of our principles, where the application is less palpable.

The distinction we have endeavoured to establish between periodicity and intermittence must not be lost sight of, for though many periodical influences may act solely on the nervous system, and be confounded in their effects with intermittence, yet until we discover that those effects are reproduced after the cause has been withdrawn, we have no right to conclude that the phenomenon in question really exists.

The causes upon which intermittent fevers are known to depend, are frequently characterised by regular intervals in their recurrence; their existence resulting from certain combinations of moisture, heat, &c. which can only coincide with the return of particular seasons. An individual submitted to their influence, would necessarily manifest the effects at corresponding intervals of time, but were these effects incapable of being reproduced when the cause ceased to act, the disease could not with certainty be regarded other than periodical. But when we remember, that while the cause is present and its action necessarily continuous, the effects are characterised by variable but defined periods in their production, and that an individual at a distance

from the primary source of his disease may experience consequences, in every respect similar to those following the first morbid impression, we are justified in concluding, that intermittence really exists, and also in attaching the phenomenon to a lesion of the system which is alone capable of its production.

There are many considerations connected with the class of diseases we are now investigating, to favour the supposition that the function of calorification is especially affected, and the researches of modern physiologists go far to deprive the respiration of its long enjoyed reputation of being the sole dispenser of this essential element of existence. The local and rapid changes of temperature following mental emotion or pathological conditions of the cerebro-spinal centres, the cold abdominal parietes during the invasion of colic, the effects of artificial respiration, the shiverings resulting from causes which cannot have immediately affected either the circulation or respiration, as the contact of a sound with the mucous membrane of the urethra, the presence of suppuration, &c. &c., and the well known influence of sudden changes of temperature in producing the disease, with many other instances familiar to all, tend to favour the suspicion that the portion of the nervous system presiding over the production of animal heat, is either primarily or secondarily involved. There is also a close analogy, if not identity of character, between neuralgia and intermittent fever. All local affections of nerves present periods of quiescence and activity; they are equally accompanied by shivering and a sense of cold, followed by heat and perspiration; in coun-

tries where intermittents prevail, neuralgic affections are frequent; individuals of nervous temperaments are most liable to this species of fever; and lastly, what is still more striking, neuralgic affections and intermittent fevers are benefitted by the same remedial measures. It is true that the latter are frequently associated with the more general symptoms included under the term of fever, while, on the other hand, many cerebral diseases are not accompanied with disturbed circulation, and some acute affections of the spine present but slight modifications of the pulse; this, however, only tends to prove that *fever* does not depend on, or necessarily accompany, an excitement, irritation, or even a severe organic affection of the nervous system, but may be regarded as an epiphenomenon, a real complication. The ligature of the limbs, the abstraction of blood, or a full dose of opium, may prevent a paroxysm of intermittent fever in the ordinary sense of the term, which can only exist with its usually attendant symptoms when the circulation is affected.

The hemorrhages and ecchymoses consequent on mental emotion, may serve as examples of congestion following an impression on the nervous system, and that this congestion is not itself the disease, is evident from the fact, that the first period is in every respect similar to what occurs in nervous affections not followed by this result

A morbid condition of the nervous centres, and, perhaps, extremities, seems the only necessary element of the disease. Intermittent fever may be viewed as a simple neuralgia, resulting from the im-

pressions of morbid causes peculiar in their nature, and re-acting upon the cerebro-spinal centres. It cannot be termed inflammation, in the strict and legitimate signification of that term, whether we fix our attention upon the symptoms or the treatment; for how could we account for the numerous varieties in the different paroxysms of the same individual, or associate the idea of inflammation with the successful employment of means which, on the supposition of its presence, would, under all other circumstances, be decidedly prejudicial? It is true that, in its mode of attack, intermittent fever presents symptoms in common with those accompanying many other inflammatory diseases; but from this we must not conclude their identity. Perhaps it would be correct to say, that *all* acute diseases first manifest themselves through the nervous system; but if the neuralgiæ of the viscera and their inflammations are so far similar that, in their earlier stages, the cerebro-spinal system experiences more or less analogous modifications, why should we be surprised that intermittent fever and strictly inflammatory affections should, at the same period of their progress, present corresponding similarity?

We consider, therefore, that intermittent fever is essentially an affection (not inflammatory) of one or more portions of the cerebro-spinal system; that all vascular derangements are only secondary to the disturbance of the nervous centres, and may or may not exist; for the most rapid and fatal cases are those which seem limited in their effects to the organs of innervation.

Whatever knowledge we possess respecting the

action of quinine in neuralgic affections, is equally applicable to its influence in the disease we are considering; and this mode of viewing the subject, though certainly not explanatory of the *modus operandi* of that singular medical agent, at least simplifies the question, by fixing our attention upon one instead of two classes of phenomena. The same observations are, of course, equally applicable to arsenic, and the other internal remedies which have been occasionally successful under similar circumstances. We shall not attempt to offer the slightest explanation of how these different remedial agents regulate the morbid conditions of the nervous system, but simply remark that the commonly employed term of their "antiperiodical effect" should rather be regarded as an indication of the system on which they act, than as the expression of an abstract phenomenon which they are intended to combat.

We have thus endeavoured, by a rapid survey of our different functions, in health and disease, to determine the seat of intermittence; and have, we believe, proved that it is a phenomenon attached to our organization in a physiological state, and that whenever morbidly present it is immediately depending upon the central organs of innervation. "It is," as Beechey observes, "to the nervous system, the functions of which are essentially intermittent, that intermittence ought to be referred: this system (he fancifully remarks) is alone capable of retaining the *memory* of the modifications it has received, to reproduce them farther on."

The opinion we have expressed, that intermittent fever is essentially a nervous affection, while natu-

rally flowing from the principles we have endeavoured to establish, and the necessary consequence of their application, has for its support the authority of many eminent writers;* and we confess it was no small gratification, to find a theoretical deduction confirmed by such a weight of unbiassed practical experience.

We are not aware of any observations upon the subject of intermittence, similar to those we now venture to lay before the Association; it has either been only casually alluded to as accompanying certain morbid phenomena, or, by the illustrious Bichat, as a distinctive character of the animal contrasted with the organic life, or as one among the many other instances of periodicity with which we have endeavoured to show it ought not to be confounded: we would therefore lay claim to some little originality of design, and still more plead for the indulgence usually accorded to a first attempt. Before, however, concluding, we may be permitted briefly to recapitulate the more prominent features of the preceding remarks.

We commenced by drawing a distinction between periodicity and intermittence, uniting the first to the manifestation of analagous effects, produced by causes present at each period of their recurrence, while the latter resulted from functional peculiarity, modified by, but not depending on external circumstances. That wherever animal life could be traced, intermittence was found to exist; that it was almost absent in its lower gradations; and everywhere

* Among others, Bricheteau, Bichat, Bailly de Blois, Schneider, Rayer, Jourdan, Georget, Guerin de Mamers, &c.

incompatible with the functions of organic life. That in proportion as the nervous system, which regulates the voluntary functions, predominated, intermittence became gradually more and more distinct; and that in the exercise of man's moral and intellectual powers, we discover the best illustration of this singular peculiarity.

From these and other considerations, we concluded that intermittence formed one of the physiological conditions of the activity of the higher functions of the nervous system, and was, in fact, their peculiar characteristic. That whenever pathologically present, it was also depending on an idiopathic or sympathetic modification of the same system, which was equally the primary seat of intermittent fever as of the more simple and evident neuralgic affections. And, lastly, we strengthened our conclusions as to their analogy or identity of character, by reference to the fact that both diseases were equally benefitted by the employment of the same remedial measures.

Bath, 29th August, 1835.

## ARTICLE VI.

# A MEMOIR

## UPON THE METHOD OF SECURELY CLOSING MOIST ANATOMICAL PREPARATIONS,

### PRESERVED IN SPIRIT.

BY JOHN GREEN CROSSE, ESQ.

*Surgeon to the Norfolk and Norwich Hospital, and Lecturer on Clinical Surgery; Fellow of the Royal Medical and Surgical Society of London; Corresponding Member of the Academie Royale de Medecine, et Société Médicale d' Emulation of Paris; formerly Demonstrator of Anatomy in the University of Dublin, &c. &c.*

(WITH PLATES.)

One sure way of being tedious is, to endeavour to say everything upon a subject that admits of being said, leaving the reader to find out nothing for himself, and giving him no credit for possessing common understanding. At the risk of being tedious, however, I shall proceed to describe, minutely, what I consider the best and securest method of closing moist anatomical preparations, conceiving this to be an art of great value to the teacher of minute anatomy, and to the zealous cultivator of pathology. Indeed, I regard this art to be next in importance,

a
b
c
d
e
f
g
h
i
j
k

for the advancement and stability of pathological anatomy, to the inspecting of human bodies *post mortem*, and believe it to have contributed greatly to heighten the character of some of our present most renowned professors in this country, where museums have multiplied in number and increased in extent, and are still increasing and multiplying, to the credit of our profession, and to the certain diffusion of useful and incontrovertible knowledge.

If an engraved representation of a morbid part be valuable, how much more so must be the original specimen from which the drawing was made? The inspecting of a well-managed preparation is to be considered the best substitute for not having witnessed the morbid dissection; and I could readily adduce examples in proof of the position, that a teacher cannot convey a distinct knowledge of certain parts of minute anatomy, most requisite to be generally understood, without a series of preparations kept in spirit. The works of Ruysch, Albinus, the Hunters, and Baillie, are still authenticated by specimens prepared respectively by their own hands, and preserved in spirits, not only for the present, but a future age. To dispute the value of such an employment, would be equal to denying that a good map can assist us in gaining knowledge of a country, or that making ocular inspection of an object conveys a better idea than reading a description of it.

Initiated in the art of closing moist anatomical preparations by my early and venerated preceptor, Sir Charles Bell, whilst I resided in his house as a pupil, and further instructed by Professor Macartney,

of Dublin, whilst engaged as demonstrator of anatomy in the University, which his zeal and talents have so greatly heightened as a medical school; I necessarily owe much to those gentlemen, which I embrace the present opportunity of inadequately acknowledging; and having since added the experience of nearly twenty years in making a *collection* of my own, chiefly comprising specimens of pathological anatomy, with the history of the cases prefixed, I am not like a young adventurer, sitting down to write upon a subject which he has just begun to cultivate. In stating what I know from experience in this matter, I shall, however, require indulgence, on account of writing hastily, without premeditation or revision.

In general, the parts, whether natural or morbid, which the anatomist intends to preserve in spirit, are of small size; and the first attention required is to dissect away all extraneous portions, such as do not strictly belong to, or are not calculated to assist in explaining, the subject to be illustrated. As to shape, size, connexion, and relative position, a moist preparation well made may be considered sufficiently exact; the colour, though often desirable, can seldom be preserved. Sometimes we attempt to preserve the colour, by at once immersing the specimen in pure spirit or alcohol, or by pouring over it dilute nitric acid. In a few cases, you may preserve the colour, and shew vascularity, by drying the surface of the specimen before immersing it in spirit; the colour and vascularity of the pia mater of the brain, and of some other membranes, may be

thus preserved; but most commonly we relinquish all attempts to preserve the colour, and wash the specimen in abundance of cold water, by immersion and by *douche*, as soon as it is obtained. The cleanliness, distinctness and beauty of some specimens, depend very much upon such ablution being practised every few hours during the time we are dissecting and preparing them: this process of ablution should seldom be prolonged above three or four days. There are occasions, however, where the dissection takes a much longer time, even several weeks, and then the parts should be kept in pure spirit, or in proof spirit (prepared by mixing equal parts of alcohol and distilled water) and the dissection renewed and completed when convenient.

The dissection being completed, or as much of it done as is required in this stage, it is often desirable to harden the specimen, and to fix it in a certain shape for display; and both these ends are obtained by immersing it for twenty-four or forty-eight hours in a strong saturated solution of nitrate of potass and alum, in equal proportions, distending the cavities of the specimen to the right degree by horse-hair, or carded cotton, or by such other mechanical aid as the ingenuity of the anatomist may suggest. In many instances, this hardening process is of great value; and I possess numerous specimens which prove it to be so. (See *plate* 1, and description.)

When the specimen is taken out of the hardening solution, it requires to be well washed with water, to dissolve and remove the salts which adhere to it, before it is placed in proof spirit. The plan I have long practised, and found most advantageous, is, to

have large wide-mouthed glass vessels (see *plate* 2, *fig*s. 1, 2, 3.) with ground-glass stoppers, containing proof spirit, in which I place each specimen, prepared as directed, until the convenient or proper season arrives for putting it up in a separate jar for exhibition. Such large jars, with ground stoppers, are indispensable for every curator of a museum of morbid anatomy; and the plan is not very expensive, after the first purchase of the jars, because the spirit kept in them does not evaporate; and when it becomes foul, which it inevitably will do, it can be distilled by a very simple apparatus, and thus fresh pure spirit be obtained. From the moment the anatomist obtains a morbid specimen, his attention must be daily directed to it in washing, dissecting, hardening, and again washing it; but as soon as it is lodged in a jar of the above description, (and one jar may contain several specimens) no more care is required until the period arrives for securing each specimen in a separate jar, for permanent exhibition.

The preceding remarks are very brief in regard to the subject to which they refer, and are stated in a preliminary way, as being intimately connected with the point I purpose entering upon minutely, the permanently and securely closing moist anatomical preparations, which is found of such great difficulty, that we rarely enter a museum in which we do not find great part of the spirit evaporated from each jar, disheartening the curator by an incessant return of his labours, endangering the specimens intended to be preserved, and incurring a degree of expense which can only be borne by

wealthy corporate bodies. When recently in London, I was assured, by the curator of one of the largest museums, where the greatest experience is necessarily afforded, that in six or seven years so much evaporation usually took place as to require the spirit to be renewed: according to this calculation, all the moist preparations in a collection would require, about every seven years, to be renewed with spirit and covered over afresh. By adhering to the rules I am about to lay down, this evil may be greatly diminished, and preparations secured for twenty, thirty, or even fifty years. I have endeavoured rather to adopt a secure process, than to study economy in the first expenditure, believing that plan to be most economical in the end, which most effectually answers the purpose and prevents a repetition of labour

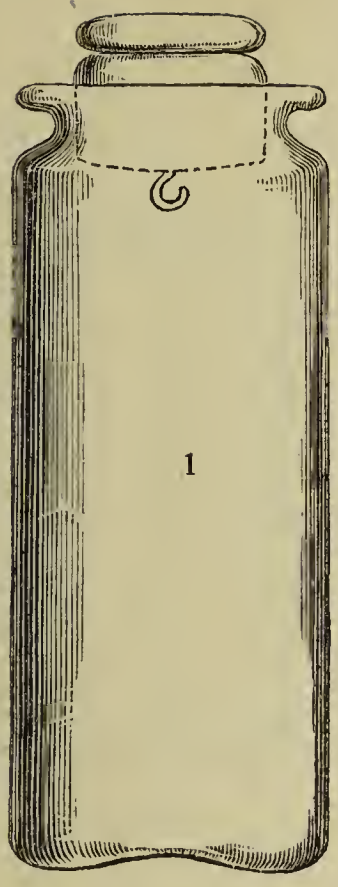
The anatomist having given the first attentions required, and lodged his specimens in glass stopper jars, as I have advised, may keep them for weeks or months, and select his time for the final arrangement of them.

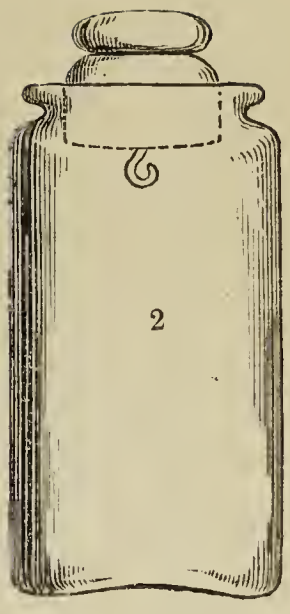
I consider it injudicious to attempt to close moist preparations in winter; the warmth of the succeeding summer will irresistibly expand the contained fluid, loosen and disturb the cover, and give rise to evaporation. The best, and at the same time most convenient, season for attending to this business, is during the warm and long days of summer; and where there is an option, the curator should make this choice. All the processes of closing a moist preparation are best conducted in warm weather; indeed, they can scarcely be accomplished quickly

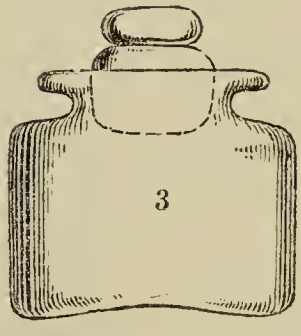
enough in the winter season. The jar being closed in warm weather, when the contained fluid has its greatest dimensions, is afterwards submitted to lower degrees of temperature only, which contract the fluid and do not, therefore, tend to displace the covering of the jar.

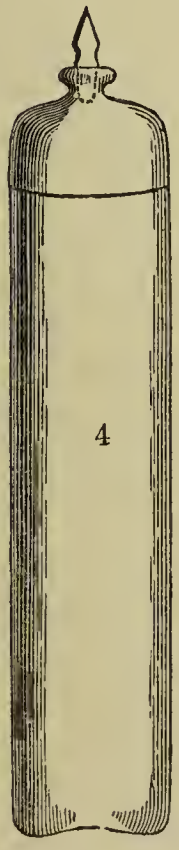
If we are too studious in avoiding expense, we cannot close moist preparations perfectly and successfully. The jars should be invariably made of the clearest flint glass, and should be from 1-10th to 1-8th, or even 1-6th of an inch thick. If the edge of a jar be not made sufficiently thick, it will break under the requisite force employed in closing the jar and adapting the lead to it. Oval jars seem to be required for some preparations, but should in general be rejected, on account of their being liable to crack in cold weather at the part where the curvature is greatest. Round glasses should be selected, shaped like *fig.* 1, *plate* 3; and it will be found very advantageous to have the jar high in proportion to its diameter, because, although some spirit should in the course of years evaporate, the morbid specimen may still remain covered with spirit, and the necessity of replenishing and re-covering the jar be obviated. There is also another advantage in a high jar, that it allows the upper part of the specimen to be distinctly seen. The lip of the jar needs to be very accurately formed; if the glass-blower have not performed his duty, leaving the lip of the jar irregular, or chipped, or not shaped exactly as I shall describe, no anatomist, in my opinion, can ever successfully close the jar. Suppose *fig.* 2, *plate* 3, to represent the perpendicular section of a jar, the

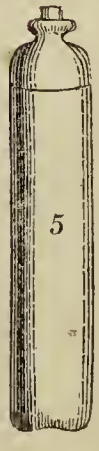
Plate 2.



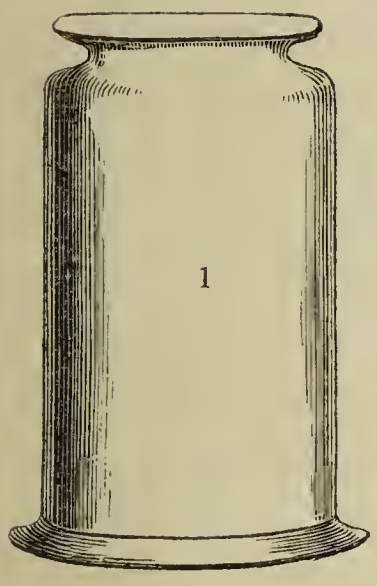



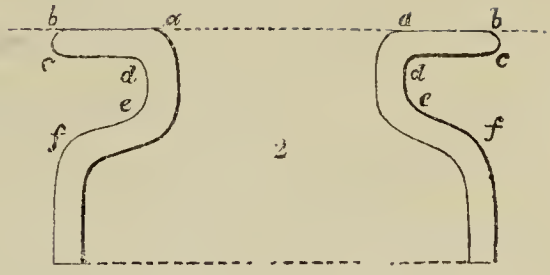



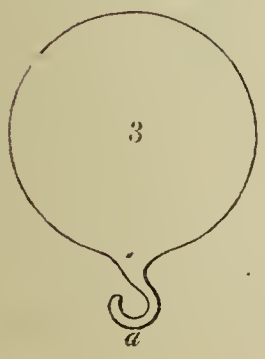



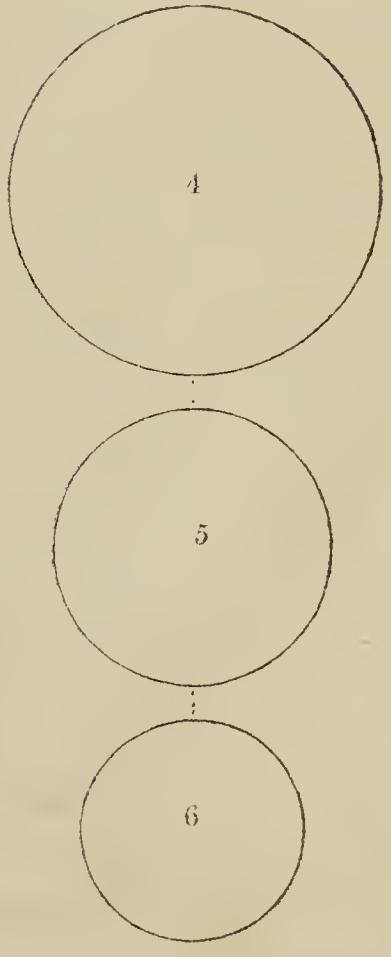



# Plate 3.



top or rim should be exactly flat in the direction of the line *(a. b.)*, the lip *(b. c.)* should be rounded, and the rest of the surface of the glass should take the direction of the line (*c. d. e.*) If the rim be not well shaped, but irregular, and brought too near to (*e.*), it will not be possible to apply the lead accurately, as will be subsequently described. Continually we find in use, jars with the rim bent irregularly, so that its inferior surface (*c. d.*) is found inaccessible when you are about to adjust the lead; and with such defects the jar can never be effectually closed.

Certain specimens, whether natural or morbid, as of the brain and spinal marrow, are usually preserved in pure alcohol. Some specimens, being previously dried, are put into spirit of turpentine, which is now less used than formerly, and is found to increase so much in bulk in hot weather as to break up the covering of the jar. The use of pyroligneous acid, or solutions of certain salts, is only recommended by cheapness, but will not be found to answer well for permanently preserving morbid specimens. In general, the fluid employed for moist preparations, is composed of equal parts of spirits of wine and distilled water; and as these fluids do not at once mix completely together, the plan I advise, and have long practised, is, to put them together, and keep them for weeks or even months in narrow-mouthed glass stopper bottles, which are very high in proportion to their width (see *plate 2, fig. 4*); thus you get a perfectly clear and uniform fluid, which can be poured off as you require it, leaving the sediment at the bottom. If the water and spirits of wine be mixed and immediately used, the mixture

has globules of air in it, as well as *impurities;* but *these* by long standing, in tall slender bottles such as I describe, will settle to the bottom, whilst the globules of air will soon rise to the top, leaving the proof spirit in the best state for being employed by the anatomist.

Having selected a jar suited to the size and shape of the specimen, you fill it nearly full with proof spirit, in which you immerse the specimen, transferring it direct from the glass-stopper jar, if no more dissecting be required.

The method of suspending a preparation must be left greatly to the ingenuity of the operator. Where a thread is employed, it should be very fine as well as strong; what is called dentist's silk answers well, a smaller or a larger filament being employed, according to the weight to be supported. For very large specimens, Dr Macartney, when I was with him in Dublin, employed a cat-gut thread, such as is used by anglers to fasten the hook to the line; it is only specimens of great magnitude that require this. The thread being attached to the preparation, its two ends are carried in opposite directions over the rim of the jar; a fine thread is put circularly upon the neck of the jar; then the former two threads, held down by the circular one, are brought back over the rim of the jar and meeting in the centre of its mouth, tied there. Description alone will hardly render this clear, but the *fig.* 1 of *plate* 5 will enable any one to comprehend so simple a process. In many instances a suspending thread may be dispensed with; where the specimen has been properly hardened and prepared, and the jar just

fits it, you need only press it down to the situation you wish, and it will be retained there, compressed by the sides of the jar. Some specimens, particularly small ones, can be fixed upon talc, which rests at the bottom of the jar, and thus a suspending thread be avoided. Glass globes filled with air, as represented in *fig. 3, plate 3,* have been used, a thread attached to the specimen being hung upon the hook (*a*): this method of suspending the preparation, by a floating glass globe, I have not found convenient; the preparation is unsteady, and sinks lower in the jar as the spirit evaporates.

The specimen should invariably be placed near to the bottom of the jar; often it may touch the bottom of the jar; and the upper third of the jar, or a considerable portion of it, should remain occupied only by the clear spirit; placing the specimen in this relative position to the top and bottom of the jar, not only brings the advantage already stated of allowing for the evaporation of spirit during many years, before the specimen will be exposed, and a necessity for renewal of the spirit arise, but admits light to come to the upper part of the specimen, enabling you to get a clear view of it, which is precluded when a preparation fills the jar near to the top, because the covering of the mouth of the jar is opaque. The *figure* in *plate* 6, representing hydatids in the placenta, exhibits the proper relative position of such a shaped specimen. Nothing can be more injudicious, or more unsightly to the eye of the experienced conservator, than a preparation placed, as one has often seen, nearer to the top than to the bottom of the jar.

The preparation being suspended, or supported, or somehow fixed in the right relative position in the jar, you must proceed to fill the jar most accurately to the brim with proof spirit, which should be poured out of a small tall and narrow vial (*fig.* 5, *plate* 2); for this filling to the brim cannot be done with accuracy, if you pour the proof spirit out of a large bottle, nor unless you make the brim of the jar exactly horizontal.

You next proceed to close the top of the jar, and bladder is the first covering you put over it. A common bullock's bladder, inflated and dried as we commonly purchase it, is the best material; and you must immerse it in water, and keep it macerating in this fluid, until it is pulpy, or until one coat passes over the other readily when a portion of the bladder is rubbed between the finger and thumb. A week or ten days will be required for macerating a bladder well, even in the warmest weather; and in the cold season, two or three weeks. In an emergency you may expedite the process by using tepid water; it can scarcely be macerated too much, though nearly putrefying, provided it continues sufficiently firm not to tear under the force requisite in applying it. The bladder thus macerated should be well washed with water to render it quite clean, and wiped with a towel to remove moisture from its surfaces. Having also wiped the rim of the jar dry, you proceed to apply the bladder, by placing the inner or mucous surface next the spirit, laying it over the top of the jar and in contact with the spirit, so that no air is left; you bring the edge of the bladder round the rim of the jar (*b. c. d. fig.* 2, *plate* 3)

and maintain it in this position by several turns of twine round the neck of the jar. Cut off the bladder close to the twine all round the neck of the jar, and press the edge of the bladder firmly upon the neck of the jar, by wiping it from above downwards with a towel, that on drying it may adhere to the jar firmly, and by a thin edge.

Experience has suggested to me a plan of drying the bladder, which is of great utility: that part only should be dried which is in contact with the rim and neck of the jar, and not the central portion which is over the mouth of the jar and in contact with the spirit. If no precaution be taken, whilst you are allowing the first bladder to dry, much spirit will evaporate through the portion of the bladder covering the mouth of the jar. I therefore cover all the bladder which is over the mouth of the jar and in contact with the spirit with a circular flat piece of lead, of such size as answers to the mouth of the jar. Graduated sizes of these circular pieces of lead should be kept (as *figs.* 4, 5, 6, *plate* 3), which may be an eighth of an inch or more in thickness; the weight of the lead brings some advantage; this lead should be allowed to remain on until the bladder is perfectly dried upon, and firmly adherent to, the rim of the jar. The bladder being perfectly dry upon the rim and neck of the jar, you remove the circular lead from the top, and also the twine placed round the neck of the jar; then pare off any irregularities of the edge of the adherent bladder at the neck of the jar, by cutting obliquely from above downwards.

The drying of this first bladder will, in warm

weather, occupy at least twenty-four hours, and sometimes it will not be accomplished in less than two or three days: you should expedite it, by placing the jar where there is a free circulation of air. If the circular piece of lead be not laid upon the bladder over the mouth of the jar, as I suggest, a considerable quantity of spirit will have evaporated, and air be contained in the jar, before you proceed to the next step: even when the circular lead is employed, some evaporation of the spirit takes place, though not more than serves a useful purpose (provided no air has entered the jar), as it renders the upper surface of the bladder a little concave, which is a desirable shape for it to assume.

The next step in closing a jar, is to apply a thin sheet of lead over it; I consider the first bladder to be of no further use, than to enable the anatomist to adjust the lead conveniently and effectually to the contained spirit and to the rim of the jar. The lead is impermeable to fluid, and is the material on which we must principally, indeed, almost exclusively, rely, for preventing evaporation of the spirit. Need I, then, dilate on the importance of every practical direction for applying the covering of lead to the jar?

Any glazier can hammer out lead to the degree of thinness required, but it is preferable to obtain it by passing pieces of lead through two metallic cylinders, such as are employed to flatten out sheet-tin. You can, by such a machine, get the lead rolled out to any degree of thinness you please. A small jar requires to be covered with thinner lead than a large jar, and experience only can conduct

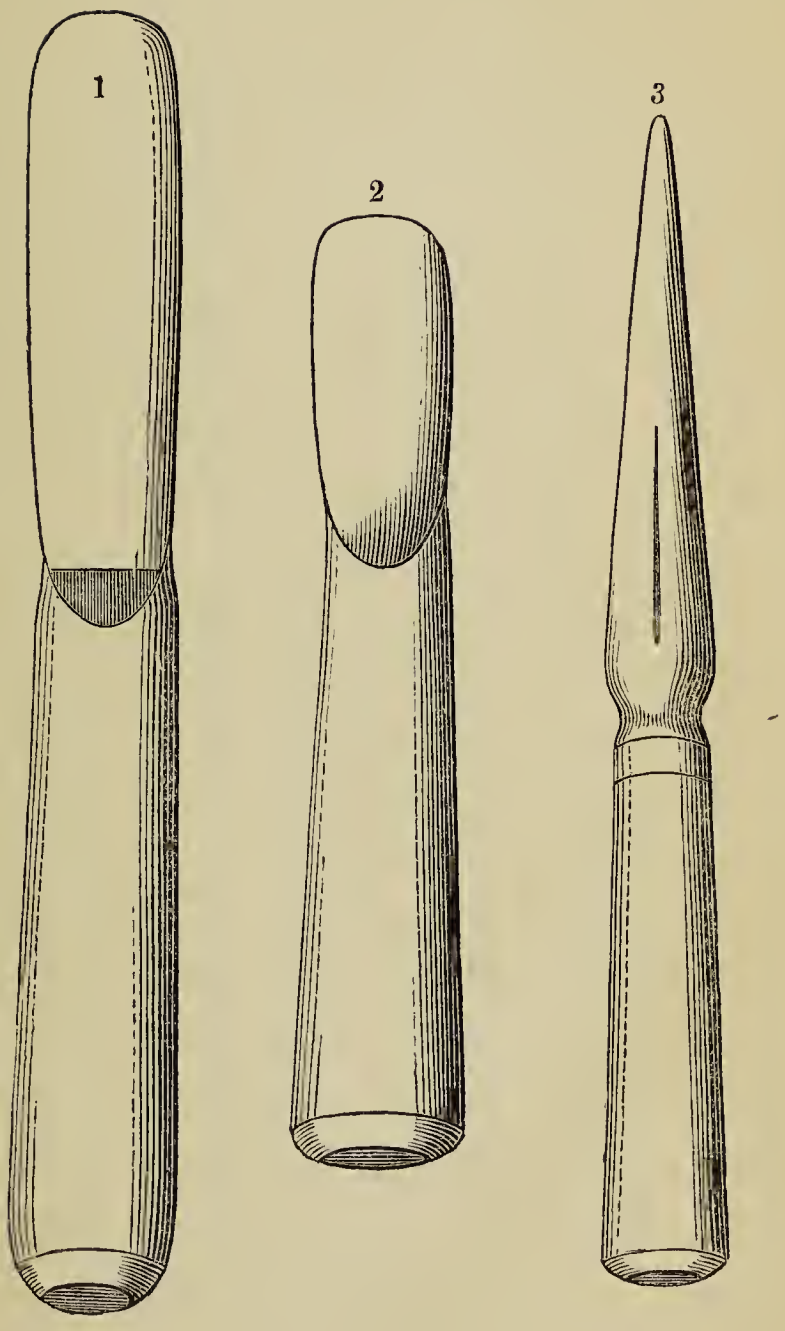
us to the due adjustment of the one to the other. If the lead be too thick, it cannot be moulded to the shape of the rim of the jar; and if too thin, it will not firmly remain after being adjusted to it. For small jars, an inch or two in diameter, the lead should, as near as I can calculate, be 1-100th of an inch in thickness; and for the largest jar, 1-40th of an inch, or about the thickness of a common wafer.

You cut out a piece of the prepared lead, as much larger than the rim of the jar as is required to lap over to the extent I shall describe, and having rendered this lead perfectly smooth and regular, you lay it upon the top of the jar, and with the fingers, aided by instruments of wood or ivory, such as are represented in *plate 4, figs.* 1, 2, 3, you put the lead in contact with the first bladder, and by forcible pressure with one or other of these instruments, you mould the lead exactly to the shape of the rim and neck of the jar, after the manner that a shoemaker uses similar instruments in pressing down and smoothing the edge of the sole of a shoe. The object is to have the lead correspond to as much of the rim of the jar as is possible, (the bladder, of course, always intervening) and with this view, you make the portion of the lead, answering to the mouth of the jar, a little concave, taking the same shape as the bladder has assumed in drying; you adjust the lead first to the inner edge of the rim (at a *fig.* 2 of *plate* 3), then to all the upper flat surface of the rim (*a. b.*), then round its outer edge (*b. c.*), to the under surface of the rim (*c. d.*), and downwards upon the neck of the jar to (*e*). The leading of a jar, after this fashion, is necessarily a

slow process; but as every thing mainly depends upon it, no trouble should be spared. When you have gotten the lead tolerably applied, being everywhere in contact with the first bladder, you must, by pressure and hard rubbing, with one of the wooden or ivory instruments (*plate 4, figs. 1, 2, 3*), put it firmer down upon the bladder and rim of the jar, using about as much force as the rim of the glass will bear, and adopting the same motion of the instrument as a gilder in burnishing a frame. The lead being everywhere smoothly and firmly applied, you finish by paring off the lead all around the neck of the jar, cutting obliquely from above downwards, and leaving the lead long enough to pass a little lower upon the neck of the jar than the first bladder.

The preparation may be regarded as tolerably secure against evaporation, as soon as the lead is thus accurately applied; but in general we proceed without delay to the next step, applying the second bladder, which should be well macerated and washed as before described. In applying this bladder to the lead, you may put the inner or mucous coat outwards (the reverse of the first bladder), and the bladder should everywhere touch the lead, without any intervening air, being secured by several turns of twine round the neck of the jar. After the twine is applied, and tied firm, you cut off the bladder even and regular just below it, taking care to leave enough of the bladder to cover the edge of the lead and descend just below it. In order to make the edge of the bladder stick well to the neck of the jar, you must press it down firmly with a rough towel, or with the handle of a knife; if the bladder have

# Plate 4.



been well macerated, it will stick very close in drying, but a half-macerated bladder will turn up at the edge and not adhere. Having finished the second covering of bladder, you leave it to dry for twenty-four or forty-eight hours, and when dry, you make its edge perfectly regular upon the neck of the jar, paring off all irregularities with a sharp knife, in the same direction as in paring the lead or first bladder.

When the second bladder is perfectly dry, you paint it over with common black paint, which is made not only to cover every part of the bladder, but to extend a little beyond it upon the neck of the jar; and when this coat of paint is dry, you give, to a similar extent, a coat of coach-maker's black varnish—which finishes the process of closing the jar. Once in a few years a fresh coat of the black varnish will be required; but where a preparation has been secured with strict attention to all the rules I have laid down, the spirit will evaporate so little, that at the end of thirty, or even fifty years, the specimen will be in as perfect preservation as at first, and will require no further attention in the interval, than receiving occasionally a fresh coat of the black varnish.

Although I have endeavoured to be very minute in my description, I feel that I have been able only very imperfectly to explain a mechanical process, which would be more easily learnt by a practical demonstration. I hope, however, to assist the preceding description, by a detailed account of the sketches or outlines given in the following plates.

Plate I, is a representation of a diseased heart,

from extreme contraction of the left auriculo-ventricular opening. The left auricle, and the right auricle and ventricle, are very capacious, on account of the obstruction offered by the stricture to the course of the blood; the pulmonary artery is also very large. But the left ventricle is not enlarged, and the aorta is of even smaller size than in a healthy subject. *a.* Is the aorta; *b.* the pulmonary artery; *c.* the descending vena cava; *d. d.* the cavity of the right ventricle laid open; *e. e.* the septum of the ventricles; *f. f.* the cavity of the left auricle laid open; *g.* the contracted auriculo-ventricular opening, nearly circular, and about 3-8ths of an inch in diameter; *h. h.* are placed on the cut surfaces of the left ventricle, shewing the thickness of its walls; *i. i. i.* refer to the cavity of the left ventricle, two of these letters being placed upon columnæ carneæ, some of which are of great size: a probe is passed from the left auricle through the opening (*g.*) into the left ventricle. The preparation, seen in perfectly clear proof spirit, enables you to study deliberately the effects of the disease, in the enlargement of all those three cavities of the heart which are situated *behind it,* in reference to the course of the circulation; to examine and compare the relative size of all the cavities of the heart, and of the great vessels proceeding from it; also the thickness of the walls. It is a permanent book, in which you may study all these matters; but without the hardening process the specimen could never have been maintained in this shape,—such a study could not be afforded; neither would it have been possible to make such a drawing as is here afforded, for in the hands of the

dissector the parts remained collapsed, until prepared for being placed in the hardening solution.

PLATE 2.—*Fig.* 1 represents a ground-glass stopper jar, of large size, for temporarily keeping specimens in, until a convenient season for putting each specimen into a separate jar; this *figure* represents a jar, 24 inches in height and 8 inches in diameter.

*Fig.* 2 is a middle-sized jar of the same description, 12 inches high and 6 inches in diameter.

*Fig.* 3 is a small bottle of the same description, convenient for holding a single preparation; it is 6 inches high, and $5\frac{1}{2}$ in diameter.

*Fig.* 4. Outline of a tall slender bottle, with narrow neck, for keeping proof spirit in

*Fig.* 5. A small slender vial, for holding proof spirit, convenient for filling a jar to the brim before applying the first bladder.

PLATE 3.—*Fig.* 1. Outline of a common round preparation jar, of the most approved shape.

*Fig.* 2. Plan of a perpendicular section of the upper part of such a jar, to shew more precisely the shape of the rim (*a.b.c.d.*), neck (*d.e.*), and shoulder (*e.f.*) The upper part of the rim (*a. b.*) is horizontal; the edge of the rim (*b. c.*) is rounded; the inferior surface (*c. d.*) is horizontal; the neck (*d. e.*) is of sufficient length to allow of a clear interspace between the inferior surface of the rim and the shoulder of the jar (*e. f.*)

*Fig.* 3. A glass globe filled with air, and with a hook *(a)*, such as has been often used for suspending preparations by floating.

*Figs.* 4. 5, 6. Three different sizes of circular

pieces of lead of considerable thickness, to lay over the first bladder whilst it is drying. Many sizes are required, answering to the width of the mouth of the different jars employed.

PLATE 4.—*Fig.* 1. A wooden spatula for moulding and pressing down the lead upon the rim and neck of the jar.

*Fig.* 2. A shorter spatula of the same sort.

*Fig.* 3. An ivory or bone instrument, in a wooden handle, used for the same purpose.

PLATE 5.—*Fig.* 1. Perpendicular section of a jar, to shew the way of suspending the specimen by a minute thread, which, proceeding from the specimen at *a.* is carried, each thread in an opposite direction, over the rim of the glass to its neck at *b. b.*, where it is bound down by a circular thread (*c. c.*) and brought again over the rim of the glass, meeting its fellow, and being tied at the centre of the mouth of the jar (*d.*)

*Fig.* 2 represents a perpendicular section of a jar, to explain the different coverings of bladder, lead, and paint, in closing it. The blue colour refers to the proof spirit, which everywhere fills the jar, and is in contact with the under surface of the first bladder, where it closes the mouth of the jar. The inner yellow line is the first bladder, convex at the mouth of the jar (*a. b.*), where it is touched by the spirit, and in close contact with the rim and neck of the jar, terminating as soon as it has reached the latter. The red line exhibits the situation of the lead, everywhere in close contact with the first bladder, and pressing beyond it a little way upon the neck of the jar. The outer yellow line is the second

b
a


b
c
a
c
b

bladder, in contact with the lead, and passing beyond it, so as to reach the shoulder of the jar. The white line, next to the yellow, represents the coating of black paint; and the black line, the covering of coach-makers' varnish; while both extend to the shoulder of the jar, lower than the terminating edge of the second bladder.

PLATE 6, is introduced to point out the right relative position of a preparation, in regard to the top and bottom of the jar. It shews the placenta occupied by numerous hydatidous tumours, and the fœtus in its proper membranes and cavity at the inferior part. The ovum was expelled entire at about six weeks after impregnation; a part of the placental mass is of course cut away, to expose the hydatidous tumours which occupy its substance. The minute threads by which the preparation is suspended, are just visible. Was not the disease of the placenta the predisposing cause to abortion in this case? Often we meet with great masses, even quarts, of these hydatidous tumours, filling the uterus where there is no fœtus; and I conceive that, in every such case, the fœtus died at an early period after pregnancy, leaving the diseased placenta to go on increasing until the full period of gestation.

PLATE 7, is a tolerably correct representation of a preparation of the nerves within the orbit, made so clear and distinct that every teacher of anatomy would find it valuable in demonstrating those nerves, and he can scarcely do it well without such a dissection: it is prepared from the fœtal head, injected minutely with size and vermilion at the full period of gestation, and kept in spirit before being dissected.

The outer bony part of the orbit is removed, all the fatty substance is dissected away, and there are seen the following parts, all, except otherwise specified, in their relative situation. *Figs.* 3 and 4 are outlines for affixing the references, and *fig.* 2 is placed above them to facilitate the comparison: all these figures being adapted as an explanation of *fig.* 1.

*Fig.* 3, *a. a.* refers to the superior and inferior eye-lid, stretched aside to show the globe of the eye, *b.*; at *c.* a part of the sclerotic coat is removed, exposing the choroid; *d.* the optic nerve; *e.* external rectus muscle, detached from the globe of the eye and hanging dependant; *f.* the inferior rectus muscle; *g.* the internal rectus muscle, principally concealed by the optic nerve, but visible above and below it; *h.* the superior rectus drawn upwards; *i.* the obliquus superior; *j.* the obliquus inferior; *k.* the levator palpebræ superioris; *l.* lachrymal gland, drawn upwards, with the outer angle of the superior eye-lid.

*Fig.* 4 contains the references to the nerves: 1. the sixth, distributed in diverging filaments to the external rectus muscle; 2. the third pair of nerves, giving off (besides branches to the internal, upper and inferior rectus) a branch passing forward, 3, to the inferior oblique muscle, and a short branch, 4, upwards to communicate with the lenticular ganglion; 5. is an orbitar branch of the first division of the fifth, which dividing into several branches that are immediately distributed, is continued in the nasal branch, 7, which is seen in a beautiful manner in the preparation, crossing over the orbit, obliquely forwards and inwards, above the optic nerve and

Fig 1.

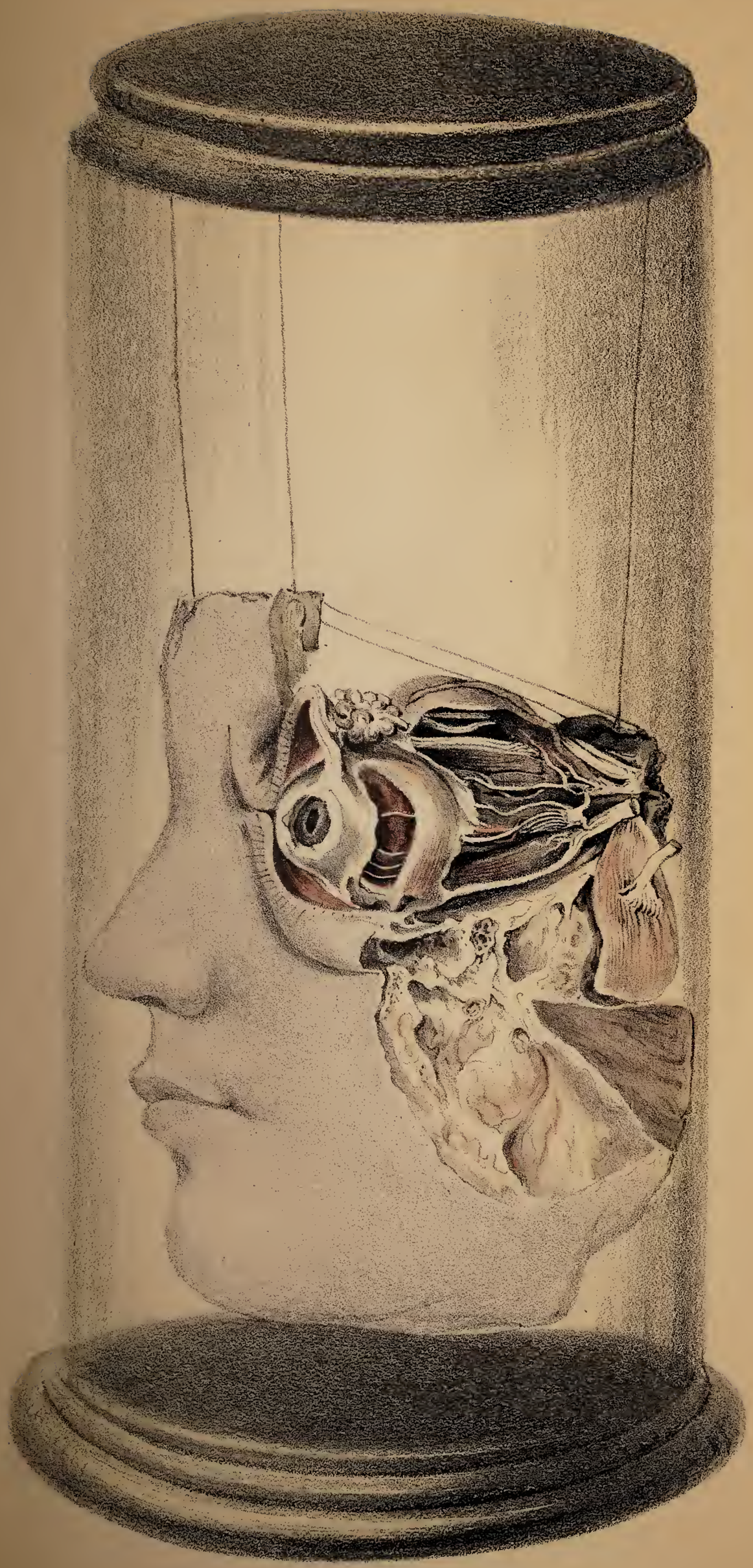


Fig.2.

Fig.3.

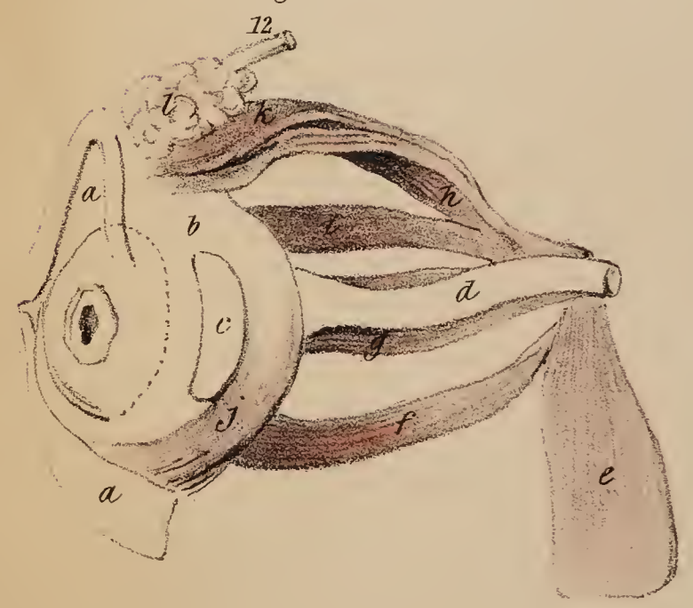
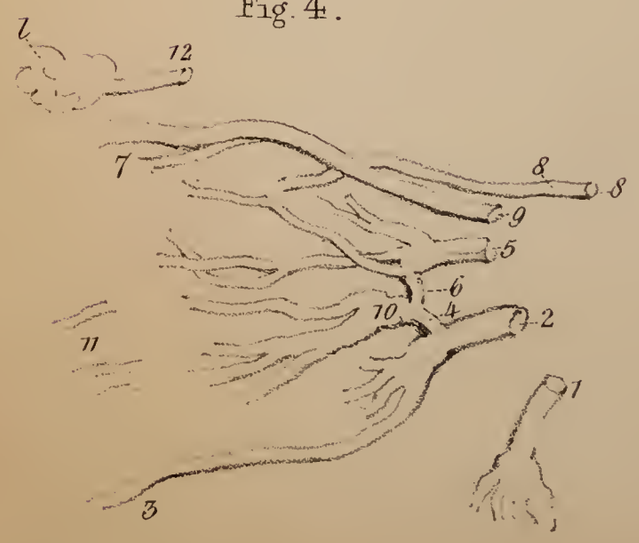



Fig. 4.




Day & Haghe Lithrs to the King

internal rectus, and below the internal oblique, to reach the internal anterior orbitar foramen—it is this nasal branch which, at its commencement, sends a short branch (6) to communicate with the lenticular ganglion (10); 8. 8. is the fourth pair of nerves, entering the internal oblique muscle; 9. is another branch of the superior or ophthalmic division of the fifth, taking its course at the upper and inner part of the orbit, and subdividing into two branches, the smaller to the lachrymal sac, the larger to pass through the superior orbitar foramen; 10. is the lenticular ganglion, sending off a lash of ciliary nerves, which are seen upon the choroid coat at 11., where the sclerotic coat has been removed; 12. the branch of the superior division of the fifth which supplies the lachrymal gland.

## ARTICLE VII.

# OBSERVATIONS

## ON SOME OF THE INJURIOUS EFFECTS OF THE SECALE CORNUTUM.

BY THOMAS CHAVASSE, ESQ.

*Surgeon, Birmingham.*

The object of this paper is not to attempt to reconcile the discordant opinions that are known to prevail respecting the powers of the secale cornutum, but to show, that though an important auxiliary in the practice of midwifery, it is calculated, when given without care and discrimination, not only to defeat the purpose for which it was administered, but to destroy the vitality of the child in utero; and that at other times, even when given under the guidance of judgment and discretion, it will occasion hour-glass contraction and retention of the placenta.

Before, however, I proceed to the narrative of two of the several cases which have occurred in my own practice, I wish it to be understood that the following observations, which apply more particularly to first labours, are not based on those cases

only, but conjointly on my own experience and that of other practitioners, who, like myself, have employed the ergot very extensively, and upon whose judgment and veracity I place the fullest reliance.

Mrs. R., æt. 29, a delicate woman of nervous irritable temperament, was taken in labour at the full period of utero-gestation. Nothing occurred worthy of observation till she had been in labour between eight and nine hours, when the pains became very frequent, but inefficient. The os uteri was dilated to the extent of a five shilling piece. With a view to control this irritable state of the uterus, a warm emollient injection was administered, (though the bowels had been previously unloaded) and a full dose of opium was given. These means had not the effect intended, neither had the opiate procured sleep, and I found her in an hour afterwards much exhausted, and the labour but little advanced. Mild stimulants were had recourse to, but my patient became very faint after each pain. At this period the child was lively, the os uteri still about the size of a crown piece, its edges thinner, the lochial discharge free, and the external parts disposed to yield. At this time I had had but little experience of the powers of the secale cornutum, and conceiving that its operation, by imparting additional energy, would overcome this irregular and inefficient action of the uterus, I ventured (as the head of the child was well situated) to give her two scruples of the recently powdered substance in a wine glass full of water. Nearly twenty minutes elapsed (my patient in the interval being almost free

from pain,) before the effects of the ergot became apparent. She now began to complain of great pain and uneasiness in the hypogastric region, different (to use her own expression) from anything of the kind she had experienced before. The pains increased in frequency and force, till at length they became continuous and violent, lasting a full half hour, when they ceased altogether ; and my patient grew restless and anxious. From this period the motions of the child were no longer perceptible ; and on examination I found the labour but little advanced. Mrs. R. being now free from pain and much exhausted, fell asleep, and full two hours elapsed before there was any return of uterine action. An increased flow of lochial discharge was soon followed by some sharp bearing-down pains, and soon afterwards by the expulsion of a fine still-born child. Firm and steady pressure was made over the region of the uterus, but no attempt was made on the part of the womb to dislodge the placenta. As there was no hæmorrhage I waited nearly an hour, but still the uterus exhibited no disposition to throw off its contents, and my patient's, as well as my own anxiety being well awake, I introduced my hand, and immediately detected well marked hour-glass contraction; the uterus being divided into two chambers, and the placenta lodged in the upper. Finding the stricture very firm, I withdrew my hand, and giving her a full dose of laudanum, waited ten minutes, and again introduced it. By steady pressure, with the fingers reduced to a conical shape, I soon overcame the annular stricture, and brought the placenta away in my hand. The uterus imme-

diately contracted firmly, and nothing occurred to interrupt the convalescence of my patient.

The result of this case cost me much pain, for I could not dismiss from my mind the belief that the exhibition of the ergot had destroyed the child; and other circumstances connected with my patient, rendered this impression a cause of more than ordinary anxiety. Mrs. R. had been married more than five years, was very desirous to have a family, had miscarried four several times, and it was only by a strict adherence to the rules laid down for her, on her own part, and some watchfulness on mine, that she attained the full period of utero-gestation; added to which, the disappointment and uneasiness she felt at the loss of her child were greatly heightened, by the full persuasion she herself entertained, that she should never again become pregnant. On this point, however, she was happily deceived, for in six months she was again pregnant, and so different was her labour in this instance, that she required neither my attendance nor the ergot, the child being born before my arrival.

At five o'clock in the morning of the 5th of June, 1830, Mrs. H., a delicate woman, 36 years of age, was taken, at the full period, with slight uterine pains, and other indications of approaching labour. When I saw her, at twelve o'clock, she was progressing slowly but satisfactorily, and the os uteri was opened to about the circumference of a shilling. I was called to her at six p. m., the pains being sharper, and the os uteri the size of a half-crown. The presentation was natural. The pains were slow, but regular, till twelve o'clock, when,

increasing in frequency till two o'clock, the liquor amnii escaped, and there was a suspension of pain for three-quarters of an hour: the child being lively and troublesome. The circumference of the os uteri was now equal to that of a crown piece, and its edges, though firm, yielded to pressure. I administered two scruples of powdered ergot. In twenty minutes it began to manifest its power, by producing pain in the lower part of the abdomen and back, which soon became severe, and continued without intermission for full half an hour, when she became quite easy. During this time there was but little bearing-down sensation, and I found, on examination, that neither the os uteri nor perineum had undergone any material change. She continued free from pain for nearly an hour, enjoying, in the interval, a little refreshing sleep. She was awaked by a return of the pains, which soon becoming severe and sensibly effective, the perineum was speedily on the stretch, and in less than half an hour my patient was delivered of a fine still-born child. After waiting full half an hour, the uterus in the interim shewing no disposition to throw off its contents, (although the belly and loins had been well rubbed, and the womb itself forcibly grasped from time to time with the hand, but without the effect of producing satisfactory contraction of the organ) my patient began to flood considerably. Unable to trace the insertion of the funis into the placental mass, I suspected there was hour-glass contraction, and on introducing my hand my suspicions were confirmed. I immediately withdrew it, gave her fifty drops of tincture of opium, and after

waiting half an hour again passed my hand into the cavity of the uterus. The constriction was soon overcome; and as there was no adhesion, the after-birth was easily brought away. My patient ultimately did well, but no conception has since taken place.

I think it unnecessary to detain the reader with the details of additional cases, as the facts in all of them correspond with those I have already related. The destruction of the child in utero, by means of the ergot of rye, whether considered in a *moral* or *medico-juridical* point of view, is a matter of no ordinary moment. My attention was first called to it by the cases I have related; subsequently by others; and has been again aroused by the large number of cases of still-born children that are weekly reported in the bills of mortality, as they occur in the metropolis. In the bills of mortality, as announced in the *Medical Gazette* of December 10th, 1833, no less than seventy-five children are reported to have been still-born in the short space of one week, from the 3rd to the 10th of that month.

When it is considered that an agent so powerful as the secale cornutum, has found its way into the hands of female midwives, who have neither experience nor discretion to guide them, and whose success is usually measured, not so much by the fortunate issue of their cases (I mean as far as the infant is concerned) as by the expedition with which the labour is brought to a close, I think there is great reason to believe that many of the deaths, so reported, have been occasioned by the abuse of this potent, but valuable medicine.

In comfirmation of this opinion, I may observe, that it was stated in one of the American Medical Journals a few years ago, that the number of still-born infants in that country had increased in such an enormous ratio since the introduction of ergot into the practice of midwifery, as to leave no doubt on the mind of the writer, that the employment of this vegetable has been in a great measure instrumental in producing such a result.

I shall now proceed to consider the influence of the secale cornutum in producing hour-glass contraction of the uterus.

These cases occur more frequently in first than in subsequent labours, and this fact is confirmed by others as well as myself.

Retention of the placenta, arising from the employment of the secale cornutum, is an evil to which the attention of the profession has, I believe, never before been directed; and I am convinced that since the ergot has been called into use, cases of this kind have been of far more common occurrence than formerly, although in my own practice, as well as in that of those friends whom I have consulted, steady and firm pressure has been uniformly applied to the uterine region, either by bandage, or by the hand of an assistant, in the proper stage of the labour.

This event has taken place in my own practice, in twenty-three instances, during a period of *seven years*. In *eighteen* of the cases the children were still-born, and *in all* of these, ergot had been administered. In the practice of my relative and partner, Mr. P. H. Chavasse, nine cases of still-born children have followed its use; and my experienced

and valued friend, Mr. Jukes, a surgeon of the General Hospital, in Birmingham, is so convinced of the fact, that he has long since abandoned its employment altogether.

Since the above was written, Mr. Jukes has kindly obliged me with the following important letter, containing the result of his experience. Mr. Elkington, of this town, whose very extensive midwifery practice has afforded him most ample opportunities of ascertaining the powers of the ergot, has likewise favoured me with a letter; and to Mr. P. H. Chavasse, I am indebted for the third; all of which, as tending to confirm the opinions I entertain on the subject, I cannot resist the pleasure of transcribing in this place. Mr. Jukes writes—

My dear Sir,—In reply to your enquiries, I beg to state, that in my first trials of secale cornutum, I had no less than six cases of retention of the placenta, almost in succession; three of which were well marked cases of hour-glass contraction. In each of these cases I had not employed it till the os uteri was fairly dilated. They were all cases of arrest, and, I have no doubt, would have been brought to a safe termination by the powers of nature alone, had I waited a sufficient length of time. In four of these cases no pregnancy has again taken place; and out of six, five of the infants were born dead. It may be said, these were extreme cases, and, fortuitously happening so nearly together, present a singularity which would not otherwise happen. Certain it is, I was at once induced to pause in its use; but though I have done so, I have, nevertheless, been actively alive to the effects of its employment by others, and I can safely say, I am more and more confirmed in my opinion, that it should not be permitted to be used so indiscriminately as it is, and has been, by practitioners in general, and more especially by women practising midwifery, who ought never to be suffered to use it, excepting under medical direction.

After ergot is administered, I have observed that no regular intermitting pains, as in natural labour, occur, but that there is a general strain and effort to expel, until the child is born; and hence more than ordinary care is required in guarding the perineum, or otherwise it will be torn asunder. Indeed, so different is the patient's situation, that if the practitioner be inexperienced the child will frequently be born before he is aware of it. In several instances which have come to my knowledge, there has been the greatest possible danger of rupture of the uterus taking place; and in one case, where the ergot had been most injudiciously given, before the position of the child had been accurately ascertained, and in which one of the arms was afterwards discovered to present, the difficulty in turning was so great as to be almost insuperable. I am decidedly of opinion that cases of retention of the placenta are become very much more frequent since the ergot has been brought into such general use.

Believe me, dear Chavasse,
Very truly your's,
Alfred Jukes.

Newhall Street,
August 1st, 1835.

## Mr. Elkington writes,—

My dear Sir,—At one time I was in the habit of using ergot, in protracted or lingering labours, extensively, and frequently with decided advantage; but the exhibition of it was so often followed by irregular action of the uterus, sometimes by increasing and inefficient pains, and by retention of the placenta, that I now seldom use it. I find, on referring to my notes, that several of those patients who took it had still-born children. It was rarely, if ever, given until the os uteri was freely dilated. Since I have used it less frequently, I have had very few cases of retention of the placenta.

Your's, truly,
Francis Elkington.

St. Paul's Square,
August 5th, 1835.

Mr. P. H. Chavasse adds,—

Dear Sir,—My experience of the secale cornutum leads me to concur in opinion with yourself respecting its effects, and more especially in first labours, in which I believe it to be a very frequent cause of still-born children, and, subsequently, of hour-glass contraction of the uterus. I have employed it now for nearly five years, and have had, during that time, nine cases of still-born children. Four of these were first labours, and they are the only first labours in which I have given it. Two of the patients have not since conceived. There was nothing remarkable in any of them: they were simply lingering labours, and in all, before I administered it, there was every indication of the children being alive. I did not employ it before the os uteri was soft and yielding, and dilated to the size of a crown piece, or even larger. In most of these cases the placenta was longer than usual in being expelled, although the pains seemed more than sufficient to occasion its expulsion, assisted, as they uniformly were, from pressure over the region of the uterus, provided there had not been hour-glass contraction. These cases have made a deep and lasting impression on my mind; and I have long since come to the determination, never to give ergot in first labours, nor, indeed, in subsequent ones without great care and caution.

I remain, most sincerely your's,

P. H. Chavasse.

In all the cases that came under my observation, no adhesion occasioned the retention of the placenta, which being detached from the parietes of the uterus, was detained in the upper cavity of that organ, formed by the hour-glass contraction.

It is a remarkable fact, that in seven of these cases no subsequent conception has taken place. How far the ergot may have had any influence in producing this condition, a greater extent of observation than my experience has hitherto afforded me can alone elucidate.

That the operation of the ergot is specifically on the uterus, is a fact generally acknowledged; and my own experience, deduced from very extensive trials, leads me to believe that its peculiar effects, if not wholly directed, are principally exerted on the circular fibres of this organ; for in those cases in which hour-glass contraction took place, no resistence was offered to the introduction of the hand into the cavity till it reached the stricture, when very firm and unyielding pressure was required to subdue it. It would, moreover, seem not unreasonable to infer, that an irritable organ like the uterus, when thrown into a state of inordinate action, should contract to that degree which constitutes spasm, and that those fibres to which its powers seem more particularly directed, should evince this effect in a peculiar degree.

Dr. Dewees appears to think otherwise, for he says,—"It is not the alternate contraction that is increased by the substance, the tonic, which is of more value, is powerfully augmented, since it can, in consequence of this power, be most advantageously employed in many cases where this effect is all important." He then observes that, "unlike other stimulants, it is never followed by inertia of the uterus; and that although hæmorrhage sometimes succeeds other stimuli, though successfully exerted as regards the mere delivery, he has never witnessed such a consequence follow the use of ergot." But no mention is made of the subject more immediately under consideration.

One fact, which I have uniformly observed, is remarked by the above-named eminent obstetrician,

namely, "that ergot never acts with so much energy as when it acts quickly; and that when it does not manifest its influence in twenty minutes, or half an hour, it utterly fails."

This difference in its operation is, I imagine, to be attributed rather to the individual than the medicine; some systems being more susceptible of its action than others.

Under the direction of a discriminating and enlightened practitioner, however, the secale cornutum may, I am persuaded, be prescribed with every prospect of success; but in the hands of the unobservant and ignorant, much injury, as well as disappointment, will accrue from its use. I came to this conclusion long before I saw Dr. Dewees paper; who, in the following directions for its employment, embodies the rules by which my own practice has been principally regulated:—

1. It should never be given before the membranes are ruptured, the os uteri dilated, and the external parts disposed to yield.

2. But should the pains flag from any cause, it may be given, provided the labour be natural, according to the acceptation of the term natural labour—that is, when the head is well situated, the breech, the feet, or the knees present. For independently of any accident which may complicate the labour, it is desirable to hasten it sometimes, for the safety of the child, when the natural powers are incompetent to this end.

3. And if the labour be accompanied by any such accident as flooding, convulsion, syncope, &c. it may be sometimes employed to great advantage, provided rules 1 and 2 are not violated.

4. It may be used often with much advantage in every kind of premature labour; and at the full time, when the placenta is not thrown off, and the uterus is in a state of atony.

5. When floodings take place after the rupture of the membranes, the os uteri well dilated, the pains feeble, but the child well situated.

6. When the head of the child has been left in the uterus by being separated from its body.

7. When the uterus is painfully distended by coagula.

In a case of puerperal convulsions, occurring in the first labour of a plethoric young woman, ergot (after a copious abstraction of blood) was administered, in accordance with rule number 2 of Dr. Dewees. No recurrence of the convulsions took place, but a still-born child was expelled in an hour after, under circumstances similar to those related in the other cases, and there was retention of the placenta; but she has since conceived and done well.

Under the fifth head I must be allowed to differ from Dr. Dewees, both as regards its exhibition in premature labours, as well as in those cases in which the placenta is not thrown off for want of contractile power.

My own observation would lead me to believe, that ergot exercises no power over the uterus until the full term of pregnancy is accomplished; or until the muscular fibres of that organ have been excited to action by the pains of labour. In two instances which came to my knowledge, in which it was given with a view to excite premature labour, it entirely failed. In one, that of a single woman, it was taken

by the recommendation of a female midwife, in full and repeated doses, but, though it excited violent vomiting, it failed to accomplish the purpose. I have repeatedly tried it as an emmenagogue, and more particularly in those females in whom menstruation has never taken place, as well as in those in whom it has occurred, though only in a very sparing degree, and where the deficiency has appeared to arise from want of sufficient activity in the uterine circulation, but without any apparent advantage. In those cases in which the after-birth has not been thrown off, it has been repeatedly exhibited, but without the least effect in promoting its expulsion.

The following cases illustrate the effect of ergot in uterine hæmorrhage during labour, and shew the superior efficacy of that medicine to the employment of the plug:—

Mrs. Adkins, æt. 38, of a full plethoric habit, and the mother of seven children, was seized, at the full period of pregnancy, with slight labour pains, followed by profuse hæmorrhage. I was called in great haste, and found her much exhausted by the copious discharge of blood that had taken place before my arrival. The pains had, in a great measure, left her. The os uteri was larger than a half-crown piece, and dilatable, and on one side a portion of protruding placenta could be detected. As the hæmorrhage continued, and every succeeding pain was followed by a gush of blood, I at once freely ruptured the membranes, and, as the presentation was natural, gave her two scruples of ergot in a wine-glassful of brandy and water. My patient at this time was pale and exhausted, and for fifteen

minutes there was neither pain nor bleeding. She was seized with severe dilating pains; and I found, on making an examination, that the portion of placenta had been retracted. The os uteri dilated rapidly, and the head descending, she was safely delivered of a dead child, in thirty minutes from the time the secale cornutum was administered, and without any recurrence of hæmorrhage. The afterbirth was speedily detached by the natural efforts of the uterus, and my patient was soon restored to health. In this case it was clear, from the putrid state of the fœtus, that it had been dead some days before the labour commenced.

The second case occurred in a delicate woman, the mother of six children, and the wife of an innkeeper of this town. She had been busily engaged all Saturday, and till one o'clock on the Sunday morning, when she went to bed. At two o'clock she was awaked by slight symptoms of labour, and at half-past two, to use her own expression, her "bed-linen was sodden with blood." In her alarm she got out of bed; and a messenger was despatched for me. I found her still up and supporting herself by the bed-post: she was in great distress, and the floor for a considerable distance around her covered with blood. I placed her immediately on the bed, and discovered, on examination, a considerable portion of placenta protruding between the fœtal head and the os uteri, which was dilated to the size of a five-shilling piece. She stated, that in all her previous labours the membranes had been no sooner ruptured than, the expulsive pains coming on, the infant was born. Bearing in mind the effect of the

ergot in the former case, I gave her a drachm of the powder in some brandy and water, as she was so much exhausted by the previous depletion, and the membranes, which were unusually thick, were then ruptured. Nearly half an hour elapsed, and there was neither pain nor hæmorrhage, owing, I suspect, to her very debilitated state, as the pulse was extremely feeble and the extremities cold. Hot brandy and water was freely administered, and the uterine pains returned. These, in a few minutes, became continuous and severe, the detached portion of placenta was no longer to be felt, and in ten minutes my patient was delivered of a fine still-born child. The afterbirth came away in fifteen minutes afterwards; but not two ounces of blood were lost from the time the ergot was given, till the moment of the expulsion of the placenta.

The result of this case, as far as the safety of the mother was concerned, was most satisfactory; but whether the death of the child was occasioned by the separation of a portion of the placenta, and the drainage that ensued, or whether it may be attributable to the ergot, I cannot determine. I am, however, inclined to ascribe it to the former cause, inasmuch as the *vis vitæ* was no sooner roused by the stimulant, than the power of the ergot began to manifest itself, and continued without interruption till the expulsion of the child took place.

I am likewise indebted to Mr. Jukes for the following case, as also illustrative of the value of ergot when judiciously employed:—In the month of April last, I was called suddenly to Mrs. A. I learnt, on my arrival, that during the night she was awaked

by a rapid flow of what she conceived to be liquor amnii, but which, to her surprise, she afterwards discovered to be blood. I found her without pain, feeling only uneasiness around the lower part of the abdomen, and complaining of being faint. On examination, I found the os uteri dilated to the size of half-a-crown, and not at all rigid. There was evidently draining still going on, but the membranes were entire. It now became an important question, whether the case should be left to nature and watched, or whether labour should be brought on by some appropriate means. I accordingly sent for Mr. Ingleby, who concurred with me in the propriety of immediately rupturing the membranes most freely, (an important point in such a case) and, provided the presentation proved natural, to give her a full dose of ergot, and await the result: this was accordingly done. In about an hour and a half after, she was safely delivered of a living child; and the placenta followed without difficulty. She recovered rapidly from the effects of the delivery, but afterwards became the subject of anasarca.

The remarks just made on the subject of uterine hæmorrhage, remind me so forcibly of a case of flooding subsequent to delivery, in which a novel mode of treatment was resorted to with such eminent success, that I am induced to record the particulars in this place.

Mrs. B., a thin phlegmatic woman, 28 years of age, was delivered of her first child, after a natural labour of six hours duration. The unaided expulsion of the placenta, in twenty minutes afterwards, was immediately succeeded by a tremendous gush

of blood, which deluged the bed and bleached my patient. My hand was instantly applied to the hypogastrium, when I found the uterus loose and uncontracted. Desiring the nurse to make firm and steady pressure over the region of the womb with both her hands, I introduced my right hand into its cavity, in the hope of inducing immediate contraction. After a lapse of twenty minutes, and no change having been effected, I gave her a drachm-dose of powdered ergot, and repeated it in twenty minutes, but without any result. My hand had now been retained a considerable time in the uterus, and every attempt made to excite uterine action, by moving it from side to side, during which I could distinctly feel the fingers of the assistant through the attenuated walls of the womb and the abdominal parietes. My patient being now in a most alarming state, almost pulseless, but without hæmorrhage, I requested the assistance of my friend Mr. Thomas Taylor, and desired the messenger to bring, with all despatch, the apparatus for performing transfusion, and in the mean time I drenched her freely with brandy. On Mr. Taylor's arrival, he renewed the pressure to the external parts, and kneaded the belly from time to time, with a view to stimulate the uterus to contract, while my hand was still retained in its cavity. Although during this time no more blood had been lost, my patient, equally exhausted, evinced no signs of returning animation; and transfusion holding out the only chance of prolonging life, our friend Mr. Ingleby, living in the immediate neighbourhood, was requested to assist us. While making the necessary preparations, it forcibly struck

me that a sudden shock given to the womb would bring on contraction, and I was about resorting to that excellent plan recommended by Dr. Gooch, of pouring cold water on the naked belly from a height, when having a half-pint syringe in my hand, and the position of the patient favouring its employment, I at once injected eight ounces of cold water into the cavity of the uterus, and immediately repeated it, (Mrs. B. being at this time too exhausted to be at all conscious of what was going on). The effect was perfectly magical: the uterus instantly and firmly contracted; the heart participated in the general shock, re-action commenced, and in half an hour my patient was safe in bed. So profuse a hæmorrhage, and occurring, too, in so delicate a subject, was succeeded by anasarca; but this speedily yielding to the use of bark and ammonia, in combination with diuretics, I had the satisfaction of seeing my patient, in the course of a few weeks, perfectly restored to health.

ARTICLE VIII.

---

A CASE OF

# NEURALGIA OF THE UTERUS,

DURING PREGNANCY.

BY JAMES HOLBROOK, M.D.

*Crickhowell.*

---

I was requested to visit Mrs. ——. On my arrival, on the 14th of March, 1835, I found her labouring under symptoms which more resembled those of child-bed labour, than I ever witnessed before, when not actually the case, and which had come on suddenly a few hours before I was sent for, accompanied by a considerable red "show." The pains recurred every ten or fifteen minutes, and continued about ten minutes. They were felt in front, in the back, and extended down the hips. The attitudes of the patient were precisely those of a woman in labour: she grasped the pillow, held in her breath, required something to press her feet against, and felt relief from support and pressure at the lower part of the sacrum. She had been sick, her pulse was quickened, and her skin warm.

On inquiry, I was informed she had miscarried about Christmas last, and that she was now supposed to be pregnant again, and about six or seven weeks advanced in that state. Upon this information, coupled with the existing symptoms, I was apprehensive that nothing I could do would be likely to avert abortion; and although on such an occasion the taking away of blood, and the exhibition of an opiate, of course suggested themselves to me, yet her apparently debilitated constitution, and the little hope, there appeared to be, under all the circumstances of her situation, of arresting the expulsion of the contents of the uterus, I was much disposed not to interfere with that process, but patiently to await the result.

I hinted the propriety of an examination, but this being objected to from a dread of the exquisite pain which it was said always to have occasioned, I desisted from pressing it. The patient, and her nurse, who had attended her under similar attacks, strongly urged me to bleed her, as, assisted by a strong opiate suppository, it had been followed by relief under equally urgent circumstances; and which latter remedy had been adopted before my arrival.

Having waited about half an hour to watch the symptoms, and not finding any further evidence of a progress towards abortion, I resolved to try and assist it, and therefore abstracted about eighteen ounces of blood from the arm, and repeated the suppository, having been informed that my patient had never been able to bear opium on the stomach in any form. The bleeding was immediately followed

by faintness, and a state of reverie, which continued for a considerable time; after which the pains gradually became less urgent, and the intervals longer; yet they lingered about the back and uterine region for at least twenty-four hours, before the process of utero-gestation seemed to be free from interruption.

This attack having been subdued, I was anxious to be informed as to the former general state of health of my patient, which was as anxiously communicated by the lady herself, her husband, and her nurse, who had lived with her some years. The substance of the account was as follows:—That she had been from a child extremely delicate in constitution; and since the age of puberty had suffered from frequent inflammatory attacks, principally of the chest, for which she had been largely and repeatedly bled; that she had also many idiosyncrasies with respect to medicines, particularly as to the effects of opium, which she could not bear on the stomach in any form, as it was invariably followed by severe vomiting, and general distress; that her bowels were habitually sluggish, and seldom moved without medicine or lavements. I ascertained, also, that she had had a premature confinement of a dead child, which took place in the first week of the ninth month, the child being supposed to have perished at about the end of the sixth month; that she afterwards recovered her usual health; but that before this occurrence, she had been subject to repeated attacks, threatening abortion, similar to the one above described, which were relieved by bleedings and opiate suppositories.

This premature confinement took place in May, last year; and she again became pregnant, and miscarried about Christmas last. She had, before her marriage, and since, been a sufferer from a morbid sensibility about the organs of generation, both externally and internally; and on some occasions from retention of urine, required the use of the catheter, which operation always gave exquisite pain.

Under these states she had been subjected to a variety of modes of treatment, by the directions of Doctor Hamilton, of Edinburgh, and others; but derived very little relief, except from opiate suppositories.

I was not in attendance on her again, after the attack of the 14th of March, until the May following. Towards the end of this month another attack of the same kind took place, which was relieved by similar treatment; as were also the succession of attacks which took place at intervals of about three weeks, until the sixth of August, when she was prematurely confined of a dead fœtus.

During the whole of the period from the 14th of March until her delivery, she had strictly kept a recumbent position; and in the intervals of the attacks an attempt was made to improve the tone of her stomach and general health, by light bitters, with and without alkalies, and sometimes with sulphuric acid, according to circumstances: an open state of the bowels was regularly preserved, by the daily use of a small dose of infusion of senna and manna, being the medicine she preferred, and which always acted well, producing one moderate

operation every day. When this was omitted for one day only, it became necessary to give a much larger dose, which always produced great irritation.

After an attack which took place on the 25th of June, she not only suffered from retention of urine, but also from a diminished secretion of it; and although the quantity retained in the bladder did not amount to more than five or six ounces, yet the pain and irritation which it produced made it absolutely necessary, notwithstanding the pain of the operation, to use the catheter, although her sufferings appeared to be extreme, both in the passage of the instrument through the urethra, and from the slightest touch even of the external parts. The consequence was, that each operation was followed by a state of delirious reverie that continued for several hours.

A few days after this occurrence, her sister came to see her, who had been an affectionate and attentive nurse to her on many former suffering occasions, and who was also acquainted with most of the peculiarites of her constitution. By her, I was given to understand, that she was supposed to have laboured under organic disease of the os uteri, but which I had myself no reason to suspect; yet, to satisfy the family, I wrote to her former medical attendant, from whom I received the following account:

"Some time in 1830, before her marriage, Mrs. —— after several inflammatory attacks, for which she had been largely and repeatedly bled, and when she was still confined to her bed, began to complain of great pain in the pelvic region, accompanied with leucorrhœa, particularly when the bowels were moved.

This state was soon followed by spasms of the abdominal muscles, and severe bearing down like the last stage of labour, occurring regularly once every twenty-four hours, and resisting every remedial measure, until strong opiate suppositories were had recourse to. The uterus was suspected to be in fault, but it was long before she would consent to an examination; and when that took place, the cervix of the organ was found to be in a high state of sensibility, the most gentle touch on examination producing excruciating pain, followed by syncope.

"On stating these circumstances to Doctor Hamilton, for the satisfaction of the family, he referred me to Doctor Gooch's book, just then published, where her state is well described by him, under the head of irritable uterus.

"By pursuing an anodyne treatment, coupled with rest in the horizontal position, she slowly but gradually improved. Still there remained an unnatural degree of sensibility in the pelvic region. When in Scotland last year, I attended her during her confinement, and found there was no disorganization, but an unnatural or morbid degree of sensibility about the external parts."

The attack which took place on the 17th of July last, was of unusual severity, and added greatly to the debility which had succeeded the previous attack in June, so that her situation became extremely anxious. My attendance on that occasion was required early in the morning, when I found her suffering as if in advanced labour, the pains recurring regularly every ten or fifteen minutes, with a considerable red "show," and frequent desire to make

water. Under these circumstances I could scarcely persuade myself that labour was not coming on, although I had attended her on the former attacks, from which she had been relieved by bleeding and the opiate suppositories, and I therefore did not consider myself justified in not having recourse to the same plan again; yet, from her extreme weakness, I determined to try half the quantity of blood that had usually been taken, so about ten ounces only were abstracted. The opiate suppository had been used before my arrival, to the amount of eight grains. This bleeding produced a slight degree of faintness, followed by some diminution of the pains, and with longer intervals; but the amendment was only temporary, as they returned with increased violence. I now insisted that I should make an examination *per vaginam*, as without it I was left totally in the dark. I made this examination, and found that I could press the point of my finger within the os uteri; that it was soft, rather pulpy, and exquisitely tender and painful. The cervix was but little more than a sixth of an inch in length. There was a small quantity of red discharge, and I could distinctly feel the movements of the child.

These circumstances certainly led me to fear that expulsion would take place, and I waited some time for that result; but having made several examinations, at intervals of about half an hour, and not finding that the pains had any effect on the os uteri, although they continued with unabated violence, I determined to endeavour to arrest them, and with that view repeated the bleeding to twelve ounces, and directed another suppository to be introduced.

The result of this second bleeding was, that syncope came on, and continued for about an hour, followed by the usual relief, the pains gradually subsiding, as they had done on former occasions.

About the middle of the interval between this time and her premature confinement, the motion of the child, which had been up to that period, from the time of quickening, not only very distinct, but morbidly sensible and painful, ceased altogether; and her stomach, from a state of constant nausea, became more settled.

The cessation of these symptoms was succeeded by a painful, hardened, and exquisitely tender state of the mammæ, followed by a sensation of oppression and weight about the cardiac region, and an intermittent slow pulse.

The affection of the mammæ was relieved by anodyne fomentations and frictions, but the state of the heart and circulation continued the same.

These changes were decided indications of the death of the child; and expulsion took place at the period before mentioned, without any untoward occurrence, and very little discharge.

From this puerperal state her recovery was going on more favourably than could have been anticipated after such complicated sufferings, except that for two or three days she had retention of urine, which on former occasions she had been subject to, under the attacks of uterine irritation before described, until the 24th of August, being eighteen days from her confinement, when some pain was felt about the left hip and inguinal region, extending down the inside of the thigh, attended with soreness, and a

degree of fullness, which she described as being able to trace along the course of the veins, from their being distended, and more than usually distinct.

These local symptoms were preceded by a distinct febrile paroxysm; and in a few days a similar paroxysm came on, followed by a slighter degree of the same affection on the right side, so that a complete case of phlegmasia dolens was established on both sides.

The circumstances most worthy of remark in these last affections, were the lesser degree of swelling than usual in such cases, and the co-existence of the irregular intermittent pulse. The former may be attributed to the early application of leeches to the inguinal regions; and the latter would appear to afford evidence in favour of the opinion of Sir Henry Halford, derived from the late Lord Liverpool's case, who had phlegmasia dolens, with an irregular intermittent pulse, which the *post-mortem* examination proved to have been connected with an obstruction and obliteration of the external iliac veins; that the latter symptom may be occasioned by the retardation of the return of blood through those vessels to the ascending vena cava and heart, from that obstruction.

Whether in the case now under consideration, a morbid state of any of the larger veins can have existed for some time, induced by the effects of her former pregnancies and other uterine complaints, in a degree short of that which would give rise to phlegmasia dolens, ought to be taken into account, as the slow intermittent pulse has not been peculiar to her last pregnant state, but had been for some

time antecedent to it a source of alarm, and apprehension of the existence of disease of the heart; but of which no stethoscopic signs can be detected by the experienced and able tact of Doctor Hastings, of Worcester, or my own examinations.

Having now gone through the history of this lady's case, I cannot help regretting that I am not better acquainted with all the peculiar circumstances which have attended most of her previous indispositions. I have reason, however, to believe, from the abstract statements I have received, that in the repeated attacks she has laboured under, as arising from a morbid sensibility of the uterine system, and the sympathetic derangements of the stomach, and of the general nervous system occasioned thereby, together with the superadded attacks of inflammation of the thoracic viscera which from time to time she had suffered from, and which, on some occasions, had made it necessary that she should be confined to her room for two or three years at a time without leaving it, they would have been well worth recording. If the list of medicines which had been tried previously to my being consulted were examined, nearly all of which either produced distressing symptoms, or totally failed of their usual effects, a fresh subject for consideration would be afforded in the necessity there was thus occasioned for confining the treatment to remedies that had been before proved to agree, and in avoiding such as had been found injurious. It might otherwise have become expedient to have tried the effects of agents, the powers of which experience had not yet decided upon, or to have acted upon doubtful pathological

reasonings; but in a case involving the lives of the mother and fœtus, the prudent extent of experiment was very limited.

The periodical attacks of pain resembling labour, which came on every three weeks during the pregnant state, constitute the principal feature in the above case; and must be taken in connection with the morbidly sensible affection of the os uteri, which existed in 1830, before marriage, alluded to by her former medical attendant, and considered by Dr. Hamilton as the irritable uterus of Dr. Gooch; the correctness of which opinion is confirmed by the identity of the subsequent phenomena of the case, and which, notwithstanding the pregnant state, recurred regularly at the usual catamenial periods.

That the pregnant state acted as an exciting cause of the late attacks, there can be no doubt, as they have attended in both instances up to the death of the fœtus, and then ceased. This renders the probability of the completion of the full period of utero-gestation, should a future pregnancy occur, extremely doubtful, as, independently of the irritable state of the uterus, the depletion, and the powerful effects produced on the system by the large quantities of opium required in the form of suppository to relieve urgent pains, must not only debilitate, but suspend healthy functional actions, as well as such as are morbid and irritable.

Such being the melancholy prospects which the recurrence of pregnancy would present in this patient, the responsibility attending the direction of the medical treatment, will be proportionably great;

and the prudence of attempting the management of the case by means founded on the pathological view of its purely neuralgic character, with a less anxious regard for the apprehensions of congestion of the uterus, its threatenings of expulsive action, and the dangers of inducing abortion or premature confinement, will require serious consideration.

Under any circumstances, the result would not be likely to be less favourable than the former terminations have been, under a treatment more particularly directed to preserve the integrity of the process of utero-gestation.

## ARTICLE IX.

ON THE

# UNITY OF ORGANIC STRUCTURE.

BY PARIS THOMAS DICK, M.D.

*Clifton, Bristol; Licentiate of the Royal College of Physicians, of London.*

That the existence of medicine as a science depends on the cultivation of anatomy and physiology, and these latter, again, on comparative anatomy and zoology, is a fact so manifest to every inquiring mind, as to need but little to be said in illustration of it. I shall deem it sufficient, therefore, in introducing the subject of the following essay to the Association, to quote the words of the great Haller: "*Quotidie experior,*" says he, "*de plerarumque partium corporis animalis functionibus non posse sincerum judicium ferri, nisi ejusdem partis fabrica et in homine, et in variis quadrupedibus, et in avibus, et in piscibus sæpe etiam insectis innotuerit.*"

By the term unity of organic structure, is to be understood a certain correspondence in the structure, as well of the various organs in the body of the same animal, as of certain organs in the body of one kind of animal, and of others in the body of animals of a different kind; dependent, it is presumed, upon

their having been formed, originally, upon the same type; so that the differences which they afterwards display, are rather accidental, as arising from a greater or less subsequent development, than essential or fundamental.

The full investigation of this subject has been entered upon only in modern times, and has been almost confined, hitherto, to the naturalists of Germany and France; but in one of its applications, at least, it had attracted the attention of Aristotle and Galen, and was, of course, reiterated by many of their copyists on the revival of literature. It had been noticed by Aristotle, that there existed a decided analogy between the several sexual organs of the male and those of the female, in all tribes of animals, however different, at first sight, they might appear to be; and this analogy was afterwards successively insisted on by Galen, Avicenna, Fallopius, Ambrose Paré, and most other writers on the subject, down to the times of Rosenmuller, Ackermann, and Autenreith. A belief, also, in the existence of this correspondence, was represented by Dean Swift as one of the vagaries of the celebrated Martinus Scriblerus. Nor was it in these organs only that Aristotle imagined such an analogy to exist: on the contrary, such was his impression of the universality of application of which this doctrine was susceptible, that he endeavoured, on these principles, to construct a general system of zoology, but failed, owing to his having allowed his just views of the structural relations of the parts of animals to be embarrassed by false notions respecting their functional relations also.

In modern times the idea of a unity of organic structure as applicable to the various organs in the body of the same animal, seems to have originated in Germany with J. P. Frank, by whom it was deduced from the supposed analogy between the bones of the skull and the vertebræ of the spine; and similar analogies being afterwards pointed out by Burdin, Oken, Dumeril, Spix, Reilmeyer, Blainville, Cuvier, Carus, and others, between various other bones of the body, the appearance of which was, on a superficial view, extremely dissimilar, the investigation began to assume the form of a regular science. The same doctrines were afterwards extended to the several soft parts of the body, perhaps for the first time by Oken, who was soon followed by the two Meckels, and more especially by Blainville and Geoffroy St. Hilaire, by the collective labours of whom, some very decided analogies were traced between parts which present, in their general aspect and character, no manner of resemblance.

In some of its applications, more especially in as far as regards the analogies subsisting between certain corresponding organs in different tribes of animals, as the brain and heart, it has been found by the recent researches respectively of Tiedemann, and of Baer, Rathke, Meckel, Allan Thompson, and others, to be so certain, and so beautiful, that no reasonable doubt can be entertained of its claims to rank not only as a science, but as one of the most interesting sciences in which the mind can be engaged.

It would be vain, however, in an essay of this description, to attempt to exhaust so extensive a

subject as the one before us: I shall be satisfied, therefore, with treating it principally with reference to the organs of man, as affording evidences of a unity of structure; first as compared with each other; secondly, as compared with those of the other sex; and lastly, as compared with those of totally different tribes of animals; and I shall be compelled, even with this limitation, to confine myself to those organs which present analogies the most striking and the best established. Previously, however, to entering on the principal subject, it seems proper to say a few words respecting the original formation of the organs in general, and the order of their progressive development in the embryo, as immediately connected with the analogies which they subsequently display.

The ovum, then, of man, and viviparous animals in general, when of such a size as to admit of examination, seems to consist principally of a yellowish substance, corresponding to the yolk of that of oviparous animals, enclosed externally by the chorion, which of course on the descent of the ovum into the uterus, comes into contact with the decidua, and internally by its general envelope.* The amnion, which is a production of the germinal membrane, to be presently mentioned, is not yet in existence. Upon one point of the surface of the yolk, and of course immediately under its general envelope, appears a round opake disc, called cicatricula, the centre of which being less opake than the rest, takes

* Vide Plates to Dr. Allan Thompson's Papers in the *Edinburgh Philosophical Journal*, 1829, 1830, on the Development of the Blood Vessels in the Fœtus.

the name of transparent area. This is the point where the germinal membrane becomes gradually developed; and it is in the centre of this that the first rudiments of the fœtus, called the primitive trace, display themselves, which they do in the form of a dark transverse line, extending from about the centre of the transparent area, to one point of the circumference of the disc, and constituting the rudiments of the spinal canal. It is a most interesting fact, established first by Ponder, in 1817, that, in the progress of development, the germinal membrane, becoming more distinct, gradually separates into three layers, called, respectively, the serous, the vascular, and the mucous layers; the first of which is external, and of course in direct contact with the general envelope of the yolk, the second below this, and the last internal, so as to constitute, by its expansion, the proper yolk-bag. From the first of these are progressively formed the whole osseous and muscular systems of the embryo, the spinal chord and brain, the general integuments of the body, and the amnion; from the second, the heart and vascular system in general; and from the last, all the organs consisting essentially of mucous tissue, and in particular the intestinal sac, which results from the folding upon themselves of the two extremities of the germinal membrane in general, and their approximation on the anterior part of the trunk of the body, so as to leave a comparatively small aperture, common to this rudiment of an intestinal canal, and the proper yolk-bag, or, as, in the course of its progressive diminution in the area of viviparous animals, it is usually called, the umbilical vesicle. The

allantoïs is merely a blind process, more or less elongated according to the degree of development, from the urinary bladder, and of course formed, likewise, from the mucous layer of the germinal membrane. As the parts proper to the body of the fœtus become developed, a net-work of blood vessels, called the vascular area, forms gradually on that part of the common yolk-bag which is nearest to the abdomen of the embryo; and it is at first, perhaps, by means of the omphalo-mesenteric veins connected with this, but afterwards, rather by the umbilical veins extending, in like manner, along the allantoïs to the placenta, that the respiration and nutrition of the embryo are respectively effected. I need hardly observe, that in proportion to the growth of the embryo, is the diminution in the quantity of the yolk, and of the liquid contained in the amnion; of the former of which there is none at all, and of the latter, comparatively very little, at the time of birth.

Such, then, are the principal parts of the ovum, and their relations to each other, in viviparous animals in general; and there is the strictest analogy between these and those of the ovum of such as are oviparous—as the chick, in which, indeed, from the greater facility of the investigation, they have been much more frequently and successfully examined. The only remarkable difference consists in this,—that as oviparous animals cannot, like viviparous, derive any part of their nourishment by the umbilical veins from the parts of the mother with which they are not in contact, the yolk is of immense size, while the liquor contained in the amnion, in them

called colliquamentum, is in comparatively small quantity. It is hardly necessary to remark, that the white of the egg and its membranes are added to the ovum in the lower dilated part of the oviduct, and that they form no part of the proper ovum, to which they bear nearly the same relation in the oviparous embryo, as the decidua and decidua reflexa do in the viviparous.

I have hitherto spoken merely of the membranes of the ovum, and the general development of the germinal membrane to form the several tissues and organs of the embryo; but it remains to be enquired, whether each of these tissues and organs existed ready formed, but in a state of extreme minuteness, in the transparent area from the first, and required only that they should be expanded and rendered opake to become visible,—or whether they are *de novo* generated, in the process of development, each by the apposition of particles of a similar nature, and had at first no collective existence. The former is the more ancient opinion; but the views now generally adopted, and first distinctly propagated by Wolff, are, that they are not merely developed, as pre-existing, one after the other, but that each is formed *de novo* by the apposition of the required particles from the general mass, itself undergoing, perhaps, numerous changes before it arrives at perfection, and that the formation of each is, in great measure, if not entirely, independent of that of every other. In all likelihood the human germinal membrane is, at first, in structure, like the body of the simplest of the invertebral animals, containing, in every point of it, the materials of all the

tissues and organs, but no tissue, and still less any organ, distinct from the rest; and it is, probably, by the progressive separation of this germinal membrane, into certain distinct matters in different parts, that distinct tissues and organs are at length constituted. Distinction and concentration of parts are always in proportion to the advancement of organization. In mineral substances there is nothing whatever of this; and in the lowest orders of organized beings, as a polype, so little of it, that almost every point of the creature is, as it were, an epitome of the whole, without any relation to, or dependence on, the rest, and capable, therefore, when separated from the rest, of an independent existence. As we advance, however, in the scale of creation, granules of distinct osseous substance, muscular substance, nervous substance, dermoid substance, vascular substance, and membranous substance, and so forth, begin to display themselves; and each point of the creature has now a more close relation to, and dependence on, the rest, than before. Still, however, there may be no organs, properly so called: but by degrees, as we proceed still further in the scale, we find the granules of the osseous, muscular, nervous and dermoid tissues, respectively, so united together as to constitute distinct bones and muscles, a nervous system, and a general envelope of the body; those of the vascular tissue so amalgamated as to form a distinct vascular system; and those of the membranous tissue coalescing in such a manner as to constitute, in the several parts of the body, distinct canals and cavities, taking the names of stomach, intestines, glands, and other si-

milar organs: and now, at length, every part of the body has the strictest relation to every other, and the welfare of each is more or less *essential* to that of all.

It is, then, through all these gradations, probably, that each system of the human embryo, the osseous, muscular, nervous, dermoid, and membranous, passes in its progress to perfection; all, or most of them, proceeding in their respective developments together, and each one independently of all the rest.

It was shown long ago by Harvey, and has been insisted upon lately by Wolff and Ponder, that the origin of the blood-vessels in the vascular area of the yolk in the incubated egg, is independent of the existence of the heart; and it is now well known, that a kind of circulation is established in these long before this organ displays any motion whatever. The same fact was established by Spallanzani, and others, with respect to the origin of some of the capillary vessels in the transparent parts of fœtuses of fishes and frogs: and an elaborate series of observations, on the progressive development of such vessels of the embryo of the fish, has been recently made by Professor Doellinger; who, although he believes that some of the smaller vessels are formed by blood impelled from the heart, has still abundantly proved that the majority of them have an origin quite *independent* of this cause—that when first visible, they have the appearance of a minute isolated column of granules, moving to and fro in a more or less solid bed—and that the oscillatory mass, afterwards dividing itself into two small currents, sends one towards the arterial portion, and

the other towards the venous portion of some contiguous capillary vessel, till at length they unite with it in the form of an arch or bow.

It hence follows, that most of the larger vessels grow, as it were, out of the smaller ones; and as these larger ones still unite together to form others of greater and greater size, it equally follows, that as the size of the larger vessels of the body goes on increasing, their number will go on diminishing, and that the trunks of this system, therefore, will proceed, in their progress to perfection, from multiplicity to *simplicity*,—the blood of any organ which, at an early period of development, was conducted, say by four vessels, being afterwards conveyed by two, and at length by one. Hence many of the arteries which, in man after birth, are single, at an early period of fœtal life are double; as is the case with the aorta, which at first makes an arch to the right as well as to the left, the two uniting about the middle of the back, as in fishes and reptiles in general; and as is also the case with the basilar artery, the arteria callosa cerebri, and many others.

The same thing occurs also with the great single veins; both the inferior and superior vena cava, for example, being at first double in the human embryo, as they are at all times in so many of the lower tribes of animals. But if the blood-vessels, and, in all probability, the nerves also, advance in this manner, the same is not the case with the great centres of these systems; both the heart and brain, when their unity is once established, proceeding after the opposite plan, and advancing not from multiplicity to simplicity, but from simplicity to

multiplicity, by the addition of more and more parts to a kind of common nucleus. But on this subject I shall have to speak more at length by and by. In the mean time, I am desirous merely of impressing the facts, that each system of organs grows by the gradual apposition of certain particles from the common stock, and did not previously exist in the ovum; that the development of each is, in great measure, *independent* of that of any other; and that it is *not* so much from the common *centre* of each, as from its *periphery*, that development proceeds.

The important question next arises, what are the laws which regulate this association of the several tissues to form the organs, and are they such as to be reduced to any generally applicable rules, or altogether arbitrary, and different in every different organ? By Geoffroy St. Hilaire the former has been presumed to be the case; and he has endeavoured to establish the doctrine of a unity of organic structure, by certain laws referable, severally, to the four heads of theory of analogies, principle of connections, elective affinities, and balance of organs. But, certainly, the facts of the science are not yet sufficiently numerous and well ascertained, to enable us to adopt this, or any other arrangement of the principles upon which they are to be explained, with the requisite precision. At any rate, in an essay of this description, a general statement of some of the most remarkable of these facts, furnishing evidence of the existence of some such laws, is all that can be undertaken with advantage. To waive, then, till a future opportunity, the consideration of these points, which appear to establish so strict an analogy

between certain corresponding organs in man and the lower tribes of animals, it has been lately presumed that many of the organs in the body of each individual animal, are formed on certain primitive types, which may be often recognised as the same, even when the general appearance of the organs in question is at first sight altogether dissimilar.

Thus it has been observed, that all the fundamental parts of the vertebræ of the spine, are repeated in the several bones of the skull, however different the latter may be from the former in their general aspect and character; and it has been hence concluded, that the vis plastica, or vis essentialis as it is called by Wolff, operates in the construction of both, upon the very same fixed principles, the difference between them being rather accidental than fundamental, and remarkable only in proportion as the bones of the skull, by their greater development in the higher classes of animals, have receded from their original prototype. Thus it would, perhaps, startle the uninitiated a good deal, to be told that the human skull is really nothing more than one gigantic vertebra, according to Burdin, to Dumeril, and Reilmeyer; but according to most other patrons of the doctrine of unity of the organic structure, three smaller ones; the occipital bone, according to Carus, constituting one, the posterior part of the sphenoid bone with the two parietal bones constituting the second, and the anterior part of the sphenoid with the frontal bone, constituting a third, while the temporal bone and ossa triquetra are merely interposed bones, or, perhaps, the foundation of a fourth vertebra, situated between the first and

second. It would perplex, I say, an uninitiated person very much, to reconcile this assertion with the obvious differences which these bones present, if he began with the human skull, but beginning with that of the lowest of the vertebral animals, he would at once perceive the analogy; and from these to man, the transitions are, in this respect, so insidious, that what would have at first startled him, he is almost compelled to admit. It is well known how much smaller is the size of the brain, compared with the spinal chord, in the lower animals than in man; and that of the skull, compared with the vertebral column, of course corresponds with this; and when we reflect, that in the inferior tribes of the vertebrated animals, the foramen magnum being situated in them quite at the back part of the skull, this cavity and that of the spine are placed almost in the same horizontal line, it will follow that nothing, either in the size or in the situation of the bones of the two, is opposed to the view just taken. The sphenoid, also, being always in these animals in two pieces, a posterior and anterior, still further contributes to the analogy above alluded to.

But are the bones of the spine and those of the skull really alike? In fishes they are decidedly so. In those genera, cyprinus, cobitis, &c., in which there is a connection between the labyrinth of the ear and swim bladder, by means of small bones contained within the vertebræ nearest the skull; these vertebræ are in shape almost precisely like the proper bones of the skull, their spinous processes being beaten out into flat surfaces, like those of the parietal and frontal bones, forming a roof

over their canals, and their bodies being contracted, so as to represent the cuneiform process of the occipital, and the spongy body of the sphenoid bone, while their transverse processes are turned downwards, and meeting below, form a canal in which the swim bladder is contained. In all these cases, also, the vertebræ, so resembling skull bones, are, like skull bones, firmly consolidated together. But if the vertebræ of some fishes thus represent the bones of the skull of fishes in general, the bones of the skull of fishes in general are, unquestionably, mere repetitions of their vertebræ. Considering the occipital bone as the *first* cranial vertebra, we find in it, in the first place, the two essential parts of a vertebra, a body and a ring, surrounding a section of the central nervous mass; and this body, formed by the basilary portion of the bone, has, on the surface directed towards the spinal vertebræ, and even frequently on that directed towards the sphenoid bone also, a central depression precisely like those of a spinal vertebra, while the ring has generally projecting ridges upon it, corresponding to the true spinous processes of the latter. From the body, also, in some genera, as the cyprinus, proceed downwards other spinous processes, precisely like those which distinguish the caudal vertebræ of fishes, and perforated, likewise, in a similar manner. The occipital bone of fishes is, therefore, obviously formed on the same model as a vertebra of the spine; nor is the similarity less striking in the second cranial vertebra, which, in the human fœtus, is formed by the detached body and great alæ of the sphenoid, and by the two parietal bones. The body of the

former is like that of a spinal vertebra, so constructed as to be almost excluded from forming any part of the ring, and the parietal bones are so small, that their general resemblance to the ring of the spinal vertebra is easily seen; the interposed temporal bone is here of use, principally, as an indirect support for the bones of the lower jaw and pectoral fins, since it does not, in the osseous fishes, contain the organ of hearing. The *third* cranial vertebra is formed by the small alæ of the sphenoid bone, and by the frontal bone, between which, conjointly, and a spinal vertebra, the similarity, though less obvious, is, nevertheless, sufficiently recognizable. They form, in fact, a kind of occipital bone reversed, but without a foramen magnum, which is unnecessary, the central nervous mass here coming to an end. Passing on to reptiles, we find the bones of the skull in frogs very similar to those of fishes; and the diameter and direction of the cranial vertebra being nearly the same as those of the spinal, while the sphenoid bone is always in two pieces, their analogy is very evident. In fact, in these animals, particularly the frog kind, the cranium varies but little from the type of the vertebral column; and from the head being of less complicated structure, the three cranial vertebræ are more easily distinguished than in fishes. The temporal bone, however, in these animals, encloses the organ of hearing. The bones of the skull of tortoises differ from those of frogs, principally in forming, besides the cavity of the skull, two great lateral hollows, which communicate with the orbits of the eyes before, but are quite open behind; they may be considered as

formed by the overarching, outwards and downwards, of the roof of the skull towards the zygoma, and are easily traced to spinous processes of proper vertebræ, as their prototype. The bones of the skull of serpents are very similar to those of frogs; while the bones of the skull of lizards are more like those of tortoises, with this difference, that the temporal fossæ are separated from the orbits, and open, not behind, but on the upper surface of the skull. In birds the skull is more simple than in the preceding classes of animals, the situation of the foramen magnum is less, decidedly, at its posterior part, and the two portions of the sphenoid bone are almost always consolidated together; so that it requires a little more attention to recognize the resemblance between its bones and those of the vertebral column. It is still divisible, however, into three vertebræ, formed of the same bones as before, with the interposed temporal bones. And the same is the case, also, with the skull of the mammalia; although, from its being still more ample, relatively, than in birds, from the situation of the foramen magnum being still more anterior, and from the sphenoid bone being not only in general in one piece, but further consolidated with the occipital bone, it would have been almost impossible, had we begun with this class, and particularly with man, to find any resemblance between the bones of the skull and the vertebræ. But proceeding, as we have done, from the inferior classes to the superior, such an analogy may be easily made out. The form of the crystal, if we may so express it, has become exceedingly changed by the addition to each bone of new parts,

and by the different relations in which they stand to each other, but its nucleus still remains the same. It is in the mammalia, also, that we first meet with the ossa triquetra, which, considering the temporal bones as foundations of a fourth cranial vertebra, may be regarded as rudiments of its ring. This character they have most remarkably, it is said, in the mouse; and even in man, when much expanded by hydrocephalus, they sometimes seem to bear almost the same relation to the temporal bones, as the parietal do to the posterior portion of the sphenoid.

It hence appears that the vis plastica, in constructing the bones of the spine, and those of the skull, has proceeded upon the same primitive model; and that all the apparent differences of the two, may be explained upon the presumption of a greater development of those of the latter, proportionate to the larger relative size of the brain, as we ascend in the scale of the creation.

Nor is it only with respect to these bones that the unity of organic structure has been observed. The bones of the upper and lower limbs are so obviously analogous to each other, that it is superfluous to point out their similarity; and the analogy between the clavicle and scapula, and the bones of the pelvis, is hardly less striking; not so much, indeed, in man and the higher orders of vertebral animals, but in fishes, reptiles, and birds in general, and the transition from the lowest to the highest tribes is, with respect to these bones, as well as those of the spine and skull, so imperceptible, that what we admit in one, we can hardly deny in the rest. It is

not unlikely, moreover, that the same laws which regulated the formation of the last mentioned bones, were in operation in the construction of the ribs and lower jaw, the relation of which, to the cranial vertebræ, is very similar to that of ribs to the spinal; while the bones of the upper jaw may, probably, be traced to a kind of transverse processes of the cranial vertebra turned downwards, in a manner similar to that in which the tranverse processes of the spinal vertebræ are, in some fishes, turned downwards to enclose the swim bladder.

Upon these analogies, however, and some others which have been pointed out, I am unwilling to insist more at present, as they require further confirmation before they can be generally admitted.

Nor is the association of some other tissues, to form the soft parts of the body, less easily traced to definite laws, operating in producing certain primitive types, the recedence from which is, in different organs, rather accidental than essential, than that of the osseous tissue, to form the several bones of the skeleton.

I forbear, at present, to speak of the muscular, nervous, and dermoid systems, produced, together with the osseous, from the outer layer of the germinal membrane, as well as of the vascular system, produced from its middle layer; since the analogies which here present themselves are less striking between the various parts of each of these systems in the same individual, than between the corresponding parts of each in different individual animals, in which relation I shall have, in future, to allude to, at least, some of them. Of some of the

organs, however, consisting essentially of mucous tissue, and produced from the inner layer of the germinal membrane, it is incumbent upon me to say a few words in this place; since the analogies which they offer in the same individual are hardly less remarkable than those presented by the different bones. This is particularly the case with respect to the intestinal canal and organs of generation on the one hand, and the lungs and urinary organs on the other. And here, again, the analogies which have been pointed out, in particular by Meckel, are such as to excite almost our derision, if we contemplate them only as presenting themselves in man: but if we begin with the lower tribes of animals, they will be readily admitted; and what we admit in them, such is the insidious progress which each set of organs makes in advancing to the characters which it assumes in man, we cannot, without violence, deny in him. I shall have, in future, to shew, that the genital organs of both sexes are essentially the same, and that those of the female recede least from their original type.

Now it is presumed that each organ constituting a part of the female genital system, and consequently the male also, is merely a repetition of some part of the intestinal canal and its appendages: the labia, for example, corresponding to the lips; the clitoris, to the tongue; the hymen, to the soft palate; the vagina, to the gullet; the uterus with its os tincæ, to the stomach and intestines collectively with their sphincter of the pylorus and valve of the colon; the fallopian tubes, to the ducts from the liver and pancreas; and the ovaries, lastly, to these glands them-

selves. We can hardly refrain from smiling at analogies apparently so forced and fanciful, if we regard the human structure alone; but if we search for them in those animals in which each set of organs retains most of its primitive type, they will be easily found, and must be universally admitted. Thus, in the lower tribes of vertebral animals, to say nothing of the invertebral, in which the resemblances are still more striking,—in fishes, reptiles, and birds, the female sexual organs have so much the appearance of a continuous intestinal canal, as, in a state of pregnancy, frequently to be mistaken for it; and even in the mammalia the similitude is very apparent in the lower tribes, becoming more and more obscure only progressively as we ascend to man. The same thing may be said of the correspondence between several parts, constituting, respectively, the pulmonary and the urinary apparatus; between the air cells and kidneys, the bronchi and ureters, the urinary bladder and trachea, &c. But on this subject I am unwilling to insist at present, further than to observe, that each of the organs formed of the gastro-pulmonary mucous membrane is repeated, in a manner more or less remarkable, in those formed of that called genito-urinary; and that thus is established an analogy, almost equally perfect, between the several parts of the mucous tissues, with that already noticed between the several parts of the osseous system.

[TO BE CONTINUED.]

## ARTICLE X.

ON

# HYDROMETRA.

BY JAMES MILMAN COLEY, ESQ.

*Bridgnorth; Member of the Royal College of Surgeons in London, &c.*

Dropsy of the uterus is a disease of such rare occurrence, that its existence has either been disputed, or it has been confounded with a preternatural secretion from the inner surface of the amnios, of which several cases have been recorded. That learned and industrious compiler, the late Dr. J. Mason Good, observes:—"The disease is rarely to be met with in the cavity of the uterus; and when this is the case the orifice is perfectly closed." "It is, for the most part, the result of a scirrhous or some other morbid change in the organ, producing debility, and occasionally fever. A membranous cellular dropsy is the variety most commonly assumed, in which the uterus is sometimes distended to an enormous size, and the abdomen seems to be labouring under an anasarca (ascites)."*

* *Study of Medicine*, vol. 5, p. 425.

When we consider that the internal coat of the uterus is a mucous membrane, subject to the same morbid action as other mucous tissues, it is surprising that it is not more frequently the seat of disease. Its periodical excitement in the unimpregnated condition, and its sub-inflammatory state after conception, giving rise to the secretion of the deciduous membrane, independently of the subsequent progressive enlargement of the uterus itself, would appear to expose it to the invasion of various permanent derangements, both in structure and function.

The pathology of the mucous membrane of the uterus has not been made the subject of extensive investigation. It has been found, like similar structures in other parts, to be the seat of simple polypous productions; and many cases have occurred in my own practice, in which a copious discharge of purulent fluid has proceeded from that surface in a state of inflammation, which would have been supposed, by a superficial observer, to have passed only from the vaginal canal.

The intimate connexion between the peritoneum and the uterine cavity, through the medium of the fallopian tubes, the only instance in the animal economy of a communication between the mucous and serous membranes, is also calculated to facilitate an extension of disease from the internal to the external coat of the uterus, and *vice versâ*.

When dropsy of the uterus is unconnected with pregnancy, the first obvious symptom, as far as my experience and observation extend, is a frequent discharge of offensive mucus from the vagina, with

occasional detachment of organized lymph, in the shape of a membrane, resembling the membrana decidua. On examination, the os uteri is found closed and healthy; and the cervix, in the cases I have met with, greatly and irregularly thickened, indurated and exceedingly tender. The whole course of the vagina is inflamed, and painful on examination. Enlargement of the uterus, from the secretion of fluid within it, follows, which is either absorbed after the cure of the original disease, or the uterine distention is reduced by the spontaneous discharge of its contents.

The original disease appears to be an inflammation in the mucous coat, followed by ulceration. The deposit of morbid secretion in the fibrous coat, when it occurs, is, probably, the consequence of the same specific inflammation. Great pain accompanies the ulcerative process, as in analogous affections, where ulceration of the fibrous structure follows inflammation in its investing membrane. Examples of this are met with in the painful and obstructive ulceration of the cornea, preceded by that of the conjunctiva in purulent ophthalmy; in ulceration of the cartilages, the consequence of inflammation in the synovial membranes, &c.

As the disease proceeds, the glands of the cervix uteri, as if influenced by a blind instinct, secrete the gelatinous fluid, peculiar to utero-gestation, which obliterates the passage. In a widow, who died of this disease, at the age of 60, Nicolaus found the cervix uteri thus closed :—

"*In cadavere viduæ sexagenariæ, uterum spheroidea distentione cartilaginem xiphoideam attigisse*

*vidit; ille sexdecim mensuras aquarum, instar amurcæ, continebat;* orificium arcte clausum erat, *ubi limus fusci coloris, extus hydates multæ, intestina versus superiora protrusa, ovaria obliterata, viscera abdominis partim scirrhosa, partim livida.*"*

In another widow of the same age, who died with what he called ascites uterinus, Verdier met with the cervix uteri obliterated by hydatids, which were probably interspersed with the natural gelatinous secretion of tbe part.

"*Vidua sexagenaria quæ pro ascitica habebatur tumore abdominis tenso* non fluctuante, *sine ullo umbilici vestigio, habuit integumenta communia valde extenuata, musculos abdominis obliteratos, peritonæum callosum justo crassius; in illo cavo uterus tendineo cartilagineus, sphæroideus, usque ad cartilaginem xiphoideam distensus, aquæ amurcosæ sexdecim mensuras argentinensis continebat cum limo fusco in fundo,* hydatibus orificium uteri *exacte claudentibus.*"†

As I have only in one instance of this disease had an opportunity of examining, after death, the state of the parts affected, I cannot say what may be the usual appearances found on dissection. In that instance a complete disorganization of a great part of the mucous and fibrous structures of the uterus was found, as will be presently detailed.

With respect to treatment, my experience with so uncommon a disease, has not been sufficient to warrant me in laying down any specific rules; at the same time, the fortunate result of the following case induces me to hope that similar practice will be

* *Decad. Obs. Argent.* 1725. *Observat.* 9.

† *Sultzman, Obs. Dec. Obs.* 9.

found equally successful, when the complaint is discovered, before the ulcerative process or specific disorganization has been established.

Case 1.—March 31st, H. P. aged 30, of an exsanguineous complexion, consulted me on account of pain in the region of the uterus, accompanied with a sense of prolapsus, and a troublesome discharge of a thin, acrid, mucous fluid from the vagina. She had three times supposed herself to be pregnant while suffering with this disease, and at the end of three months, each time, a flow of an offensive thin fluid took place, followed by an immediate subsidence of the swelling in the hypogastrium. On examination, I found the vagina very tender, and the uterus, adjoining the cervix, so indurated, thickened, and sore, that I suspected the existence of carcinoma. Supposing, however, that the remarkable thickening might have been occasioned by chronic inflammation, without the presence of any malignant disease, and finding the os uteri, the usual seat of scirrhus, soft and healthy, I was induced to try the effect of mercury, whose property, in removing simple inflammation in fibrous and serous structures, is so well established.

As soon as the mouth became affected by this treatment, the thickening and induration of the uterus subsided, and at the end of two months all symptoms entirely disappeared. In the following August the patient complained of a slight discharge from the vagina, which was soon removed by copaiba, and a lotion compounded of sulphate of zinc and alum.

On Nov. 11th, 1834, I had an opportunity of ex-

amining the state of the parts, and found the uterus and vagina in a perfectly healthy condition.

This plan may be accompanied with local bleedings and antiphlogistic regimen, until the pain has been modified or subdued, and followed by the use of astringent injections, as those prepared with nitrate of silver, &c., which are known to be so beneficial in chronic inflammation of other mucous membranes.

The following case came under my notice at so advanced a period, that no opportunity was afforded me of attempting any curative plan; and even palliative measures proved abortive.

Case II.—1834, Feb. 12th, L. W., aged 36, leucophlegmatic, mother of two children, the youngest of whom is nine years old, has been confined to her bed four months with a tumour and constant pain in the region of the uterus, attended with obstinate constipation, hectic fever, and extreme emaciation. She informed me that a year and a half ago a gradual enlargement of the abdomen, with suppression of the menses took place; that she then believed herself to be pregnant; and that at the end of seven or eight months from the commencement of this state, a sudden discharge of offensive fluid, with portions of a membranous substance proceeded from, and completely reduced the volume of the uterus. Having made preparations for her expected parturition and been thus deceived, she felt convinced, by her own sensations, that her present symptoms indicated a return of the disease. I found her labouring under a painful, irregular tumour in the hypogastrium, resembling that produced by the uterus in the sixth month of pregnancy, ex-

ceedingly tender to the touch, hard and prominent on the left, and comparatively flattened and elastic on the right side of the abdomen. The pain she felt was of a shooting kind, constant and varying in degree of intensity. The os uteri was sound and a little dilated. The cervix was closed and three-fourths of an inch long. The adjoining parts of the distended uterus, within reach of the finger, were of a stony hardness, unequal on the surface, and exquisitely tender, especially on the left side. The vagina was also particularly tender, and during the last four months, afforded, at intervals, a dark-coloured, offensive, thick discharge, with portions of a membranous substance. Menstruation had ceased, and the breasts were enlarged and firm. This erratic symptom, however, is observable even when an imperfect ovum has been impregnated, and conducted into the uterus, and abortion impending.

March 1st.—Being again requested to visit her, I found that Mr. Thursfield, under whose care the patient had been placed, had taken the opinion of Mr. Ingleby, Professor of Midwifery, at the School of Medicine, in Birmingham, who happened to be in Bridgnorth, and saw the patient with him. The extraordinary enlargement of the uterus, together with an obscure motion felt through the tumour, induced Mr. Ingleby to entertain a belief of the existence of a living fœtus, in which opinion Mr. Thursfield himself coincided. On carefully examining the abdomen again, I discovered that the indistinct, crawling sensation, which had misled Mr. Ingleby, was occasioned by the peristaltic motion

of the subjacent intestines.* No ictus could ever be detected, and the stethoscope afforded no evidence of pulsation, except that which arose from the impulse of the aorta, or the iliac arteries. On a minute and continued inspection of the naked abdomen, I could not perceive any movement resembling the motion of a fœtus. In the uterus, felt from the vagina, no fluctuation was discoverable, nor was there the slightest resiliency, either at that part which was the seat of the remarkable induration, or on the opposite side, where the thickening was accompanied with a more natural softness. The diseased parts of the uterus towards the sacrum, and on the left side, presented a strong hardness.

March 31st.—A slight hæmorrhage issued from the vagina, preceded by the detachment of a thick piece of abnormal membrane, evidently the result of vaginal inflammation.

May 24th.—During the last six days the patient has suffered much from peritonitis. Pulse fluttering, 120. Two days ago experienced another exfoliation of deciduous membrane, accompanied with offensive discharge.

June 10th.—The peritoneal inflammation and

* This deceptive sensation has attracted the notice of others, as the following remarks will prove:—"So close is the apposition of the abdominal wall to the surfaces of the subjacent viscera, that in some cases of extreme emaciation, the peristaltic movement of the intestinal canal is manifested by the *successive elevation and depression of the wall,* corresponding to the dilated and contracted portions of the intestine." —*Cyclopædia of Anatomy,* vol 1, p. 2.

The candour with which my much esteemed friend, Mr. Ingleby, has acknowledged his mistake, in alluding to this case, in the *Dublin Journal of Medical and Chemical Science,* vol. 6, p. 356, reflects upon him the highest credit.

the pain have continued to increase, and been followed, during the last three or four days, by an eruption of purpura all over the body. Much offensive discharge from the vagina. Skin cold and clammy. 15th.—Died at four a. m.

*Sectio cadaveris.*—The body was examined on the 17th, and the following appearances presented themselves during the dissection :—Extreme emaciation. The omentum, in a state of mortification, intimately adhering to the uterus in front ; and the abdominal peritoneum, on the left side of the body, was nearly a quarter of an inch thick, and inseparably united to the peritoneal coat of the matrix, which on every part, free from adhesions, was thickened and indurated with lymph, irregular on its free surface, and approaching to a tubercular condition. Every attempt to separate the omentum and abdominal peritoneum from the serous coat of the uterus was prevented by their intimate consolidation. The most firm union, thickening, and induration of these membranes were met with at the part, where the greatest tenderness, hardness, and resemblance to tubercle or scirrhus were observed during life ; and that portion of the uterus in front, which had presented through the abdominal parietes the elasticity and figure of the swelling, produced by the serous fluid secreted by the amnios, was free from adhesion, except that with the omentum, which has been already described.

The fibrous portion, or body of the uterus, was so disorganized, that it was not thicker than an ox's bladder, and in some places it was altogether destroyed by an ulcerative process, which had com-

menced in the mucous membrane. On slight pressure being applied, the peritoneal coat at one spot, being free on both surfaces, gave way, and a thin, dark coloured, offensive fluid, resembling that which proceeds from an ulcerated intestine, and containing portions of coagulable lymph, to the amount of three pints, escaped. The fibrous coat was quite destroyed at other parts, as well as the spot where the rupture took place; and the uterus, on being divided, collapsed like wet wash-leather, being generally reduced in thickness to the eighth of an inch, and having entirely lost its firmness and elasticity. In short, the principal support and figure of the organ were dependent on its indurated peritoneal coat, except at the inferior part near the cervix.

The whole of the internal or mucous surface of the uterus was found in a state of *ramollissement*, or of that species of ulceration observed in the mucous coat of the intestines in certain fatal diseases of these parts.

The cervix was obliterated with the gelatinous secretion, peculiar to the state of utero-gestation; and the walls of the uterus, adjacent to that part, were enlarged, and consolidated with a tuberculous mass, the principal portion of which was deposited in that part which rested against the rectum, and obstructed its passage. This morbid production consisted of an uniform white structure, and was free from those radiating bands, that gristly feel, and irregular surface, discoverable in scirrhous indurations.

The other abdominal viscera were free from disease, except the colon, which had undergone extreme distention, and was loaded with hardened fœces.

With respect to the origin of this singular disease, it appears to me that the diseased action commenced in the mucous membrane, and was translated to the adjacent textures in succession. When the mucous membrane of the eye is attacked with severe catarrhal inflammation, first an increased secretion takes place from its fine surface; next, a copious purulent discharge from, and enlargement of, the mucous follicles, presenting a granular appearance; and lastly, ulceration, which penetrates and destroys a portion of the cornea, or fibrous coat, and the serous membrane, that secretes the aqueous humour. In this case the destructive process marches in succession from the mucous to the fibrous and serous coats; and, I presume, the same course was observed in the present instance. When specific inflammation and deposit take place in the serous coat of the intestinal canal, and the ulcerative action follows, the fibrous coat is next perforated, and lastly the mucous: as is exhibited by a specimen in my possession, in which the diseased action evidently commenced on an extensive scale in the peritoneal coat of the stomach and intestines, and terminated in consecutive ulceration, which penetrated the fibrous and mucous tunics.

Bridgnorth, June 12th, 1835.

---

## APPENDIX.

Since the above was written, I find that a case of hydrometra has been recorded by Dr. A. T. Thomson,* and another by Dr. Ramsbotham, in the second vol. of his *Practical Observations*, which has, also, been described by the late Dr. Gooch,

* *Medico-Chirurgical Transactions*, vol. 13, part 1, p. 170.

who witnessed it with him. In both these instances the os uteri was found to be obstructed, and in the latter, almost obliterated. Dr. Thomson also refers to a case, related by Vesalius,* in which the uterus was found to contain 180 pints of serous fluid, the os uteri being firmly closed. It is probable that dropsy of the uterus existed, and was cured in a patient, who consulted Dr. Thomson on account of an uterine tumour, which had been gradually increasing during eleven months;† and a similar case was observed in the practice of Dr. Merriman.‡

In the case related by Dr. Ramsbotham, the mucous coat of the uterus was entirely destroyed by ulceration, the walls of the uterus not being more than one-fourth of their usual thickness, and several black spots, as in the second case related by myself, were observable in different parts. The analogy between this and my second case, in these respects, was very striking.

With respect to treatment, a singular coincidence may be noticed between Dr. Thomson's, and my first case, for he remarks, "*Mercurials* were prescribed by us to affect the mouth slightly, the bowels were kept open, and leeches and blisters were alternately applied on the abdomen, over the tumour. By these means its increase was arrested; but the sensation of pain, on pressure, remained unabated."§ In the case related by myself, the disease seemed to be removed entirely by the use of *mercury*, without any external remedies.

As several other cases have occurred, in which recovery has taken place in consequence of a discharge of fluid, which it was believed had escaped from the uterus, Dr. Thomson, with great propriety, proposes the artificial evacuation of the uterine swelling, by dilating the os uteri or puncturing the sac through that part.

Bridgnorth, Sep. 14, 1835.

* *De Corporis Humani Fabricâ, lib. 5, cap. 9, p. 627.*

† *Medico-Chirurgical Transactions.*

‡ *Loco citato.*

§ *Medico-Chirurgical Transactions, loco citato,* p. 172.

T. Fairland delt

Mr Brayne's Case

Day & Haghe Lithrs to the King

ARTICLE XI.

# A CASE OF EXTENSIVE AND CURIOUS DISEASE OF THE FEMALE PUDENDUM.

BY THOMAS BRAYNE, ESQ.

*Surgeon, Banbury.*

(ILLUSTRATED BY A PLATE.)

A FEW months ago I was hastily summoned to a female patient who was supposed to be dying, but who had only fainted from the effects of a profuse hæmorrhage, which, on examination, was found to have proceeded from some deep ulcerations in an unusually large malignant tumour of the genitals. Having arrested the bleeding, by plugging the cavity with lint, and provided for the immediate necessities and security of the patient, I obtained the following particulars:—

Mrs. S., æt. 39, relates that about twelve years ago, she first observed a pendulous substance, of the size of a small nut, growing near the upper

part of the left labium pudendi, of the cause of which she could give no account. It was quite unattended by pain or inconvenience for the next two or three years, when it had attained the size of a goose's egg. Soon after this it became gradually more painful and grew faster, until it had, in the course of five or six years, acquired nearly its present size, accompanied by frequent, severe, and lancinating pains. About two years since it became deeply ulcerated in two places, and lately, from one of these, had bled most profusely. It was on the last of these occasions that I was called in, being the first time that she had ever communicated its existence to any one, except her husband, or applied for any professional advice. When it was small, she had herself applied a ligature, but with no sensible effect in diminishing the growth of the tumour. In other respects, she says that she has been a tolerably healthy person, and has, occasionally, endured great fatigue. She has always menstruated regularly, and does so at present, though the catamenia are paler than natural. She has had one child, who is now about twenty years of age, and she is certain that the swelling did not exist at the time of its birth, and was not produced by any circumstances attending her labour. She has contrived to support the tumour by including it with one thigh, in a bag, at the top of a long stocking, but its weight and accompanying pains have lately confined her very much to bed, the pains having been felt much more within the pelvis, and about the sacrum. Her constitution appears to be giving way very considerably, as she is without appetite,

has a quick pulse, impeded respiration, and frequent cough.

On examination, the tumour is found to grow by a neck, which increases to about five inches in circumference, and seems to be composed of both nymphæ, continuous at the upper part, and doubled together, for on raising the tumour against the abdomen and separating this duplicature, in its concavity is seen the orifice of the urethra in its natural situation, but the clitoris is undistinguishable. The tumour is flaccid and rather soft, and somewhat of a pyriform shape, with the largest end upwards. It measures fourteen inches and a quarter in circumference at its widest part, and ten and a half in length, exclusive of the neck by which it grows, the lowest part of it reaching down, when hanging and unsupported, nearly to the knees. The general aspect of its surface is rough and tuberculated, in some parts being fissured and rugous, in others composed of prominent and clustered lobules of various sizes and shapes. The rugous and, apparently, the oldest portions, are of a very dark brown colour, speckled by patches of cuticle of an intense black. The smaller tubercles are of a pale brown, while the larger and more distinctly lobulated portions are of a light red and more vascular appearance, and some are almost semi-transparent. Here and there are deep excavations, where ulcerations have existed and healed, one of which *(vide drawing)* is seen, smooth and deep, near the centre of the mass. The ulcers that exist at present are smaller, and situated upon the posterior part of the tumour. Some of these have a yellow colour, like unhealthy granula-

tions, from which there is constantly discharged an immense quantity of an offensive, irritating ichor, which is often tinged with blood. The whole skin of this mass possesses a considerable degree of sensitiveness, and large venous trunks ramify on its neck, and are soon lost in the body of the tumour. Ulceration of these vessels probably furnished the profuse discharge of blood that I witnessed, which was evidently venous, and amounted, at least, to four pints. On weighing the tumour, with as much care as possible, to ensure accuracy, it was found to weigh (February 18th, 1835,) full eleven pounds.

The posterior parts of the labia, the perinœum, and the skin surrounding the anus for several inches, are also in the same lobulated and tuberculous state. One small, hard, flat tumour projects beyond the rest, about an inch and a half in length, from the margin of the anus; another, of the size of a walnut, occupies the orificium vaginæ, and grows by a neck from the posterior surface of that canal. All these parts partake of the same general character of disease as the large tumour; but they are, for the most part, more solid and resisting, like ordinary scirrhus. Much lancinating pain is constantly experienced in them; and there is, also, frequently discharged from the anus, a considerable quantity of the same offensive matter as from the ulcerated portions of the larger tumour.

Before these latter parts were examined, the idea of removing the large tumour, by the knife, immediately suggested itself, but the diseased condition of all the surrounding integument, and the probable existence of internal changes of structure soon pre-

cluded all hope of relief by such a proceeding. The hæmorrhage has occasionally recurred, though not so profusely as at first. Solutions of chloride of lime or soda, applied externally, mitigate the fœtor; and occasional doses of liq. opii sedat. produce as much palliation of the pain as can be expected in such an advanced and extensive condition of loathsome disease. Both the large and small tumours evidently increase in size, and the diseased condition of the surrounding integument seems gradually to encroach upon the neighbouring sound parts.

In the accompanying sketch, which I beg to subjoin to render the description more intelligible, the dark fissure near the centre of the tumour is intended to represent the hollow which remains from one of the deepest ulcerations it has undergone, and which has completely healed; the smooth, redder parts being those which have most recently cicatrized. The mark or cicatrix of a smaller ulcer, and which, she says, was the first to break, is seen at the lighter shaded part in the upper portion, surrounded by very dark brown skin, not much tuberculated, but thickly streaked with the patches of black cuticle, which very firmly adhere to the parts beneath.

Tumours upon the genital organs are, I believe, not very common, and the enormous magnitude and curious structure of the present example will, I trust, render it worthy of communication to the members of the Association.

It does not seem to me very easy to give this morbid growth an appropriate name. In some respects, at least as far as the nymphæ seem to

have been concerned in the production of the large tumour, it is something like excessive hypertrophy of their peculiar structure. The rugous and tuberculated state of the surface, and the black stain of many parts, assimilate it, in a striking way, to a kind of elephantiasis; the old Arabian variety of which is said, I think, occasionally to invade the vulva and scrotum, as well as the extremities and face. A tumour, apparently, of this kind, though comparatively small, is described in *plate* 40, *fig.* 5, at the end of the work of Madame Boivin and M. Dugès, of Paris, lately translated by Mr. G. O. Heming. It is there called pancreatic sarcoma, though it does not seem to me to possess the characters of that species of tumour, as described by Mr. Abernethy in his classification of such diseases. The present case has none of the appearance of the tuberculated sarcoma of his arrangement, while the scirrhous solidity of the small tubercles at the anus and vagina, and the lancinating pains, both in the external parts and within the pelvis, lead to the just suspicion of the existence of malignant, perhaps, ordinary, carcinomatous disease in some of the internal organs of the pelvis, of which this may be altogether an example, only modified on the nymphæ, by the peculiar structure of the part in which it occurs. It furnishes, however, in addition to its general interest, one more to the many daily proofs which might be adduced, of the great difficulty, and often impossibility, of attaching positive names to certain particular cases. This is undoubtedly true of many of the cases of internal disease that we meet with in practice, as has been well ob-

served by the excellent and able founder of this Association, in his admirable Address prefixed to the first volume of its *Transactions*. The medical practitioner who is too fond of assigning a distinct name to any case that he meets with, enlists a system only to curtail useful and comprehensive views of disease; and while occupied with nosological speculations, becomes liable to fix the efforts of treatment upon one point, instead of directing them to the equally necessary liberation of other co-existent derangements. But, in regard to the nature of the disease in this case, the recent investigations of Dr. Carswell, in his splendid work on pathological anatomy, seem to me to go far towards determining it to be, throughout its different seats, a variety of carcinoma, which he clearly shows "to be deposited in the same manner as the nutritive element of the blood, and to enter into the molecular structure, and assume the form and arrangement of the tissue or organ into which it is thus introduced." No other view of the origin of these formations seems to me to be adequate to explain the extent and varieties of such diseases, and the liabilities of most, if not all, structures to their deposition in certain subjects.

## ARTICLE XII.

---

# A CASE OF

# DEFORMITY OF THE PELVIS,

IN WHICH THE

CÆSAREAN OPERATION WAS PERFORMED WITH SUCCESS.

BY G. B. KNOWLES, ESQ.

*Member of the Royal College of Surgeons, London; Fellow of the Linnæan Society; and Lecturer on Botany at the Birmingham School of Medicine.*

---

SARAH BATE, the subject of the present operation, resides in Staniforth-street, Birmingham, and is thirty-six years of age. She was delivered of her first child, a boy, in May, 1824; of her second, also a boy, in December, 1826; which children are still living.* She had a girl, still-born, in May, 1828; and a boy, born prematurely, in November, 1829.

* It is, however, a remarkable and at the same time a melancholy fact, that the elder boy, a few years ago, began to complain of weakness in his legs, and an inability to direct their motions; these symptoms gradually increased, and terminated, at length, in complete loss of power in the lower extremities. The younger of the two began to complain, about twelve months since, in a similar manner, and is now almost as helpless as his brother. There is no curvature of the spine in either case; nor any other evident deformity.

During her pregnancy with this child, she began to perceive a loss of power in her lower extremities, with considerable uneasiness, though not amounting to severe pain, in her hips and loins. Soon after her delivery, which was in the seventh month of utero-gestation, she again became pregnant, when the loss of power increased to such a degree, that she became incapable of moving from her seat without the aid of crutches. After this period she miscarried four times, and at rather short intervals.

In her last pregnancy (which was her ninth,) she went her full time. I was called to see her about seven o'clock in the morning, on Friday, the 15th of May last (1835), when I understood that she had been taken in labour about four o'clock in the afternoon of the preceding day. The pains, however, were neither strong nor frequent, and I considered it unnecessary to remain with her. It should be stated that the legs and thighs were exceedingly distended by anasarca, which extended, in some degree, to the integuments of the body. About three o'clock I was again sent for, when I found her in strong labour, the pains being vigorous and at short intervals. Upon examination, a most extraordinary state of deformity presented itself; the sacrum, with the lower lumbar vertebræ projecting, and at the same time descending so far into the cavity of the pelvis, as to occupy a large portion of its space. This projecting body was also rounded in shape, in a most remarkable manner; so that without a somewhat careful examination, it might easily have been mistaken for the child's head. Upon passing the finger, however, between it and the hollow of the

sacrum, a perfect continuity of surface might be traced from one to the other, thus shewing at once the actual nature of the case. The capacity of the pelvis was still further diminished by the ossa pubis, which were bent inwards to such a degree, as to approach very nearly to the distorted vertebræ.

It will be readily conceived that this state of deformity rendered every attempt to ascertain the presentation utterly impossible. About four o'clock a violent pain ruptured the membranes, when an unusually large quantity of liquor amnii escaped. Again I endeavoured to feel the child, but with no better success. Under these circumstances, I requested the assistance of my friend, Mr. Ingleby, the able and intelligent Lecturer on Midwifery, at the Birmingham School of Medicine. After the most careful examination, we ascertained that the space left by the deformity, did not exceed two inches in length, by less than one in breadth; a space that could by no means be considered available under any point of view. To attempt to open the head, where that head could not be felt, would have been neither prudent nor practicable. Admitting, however, for a moment, the bare possibility of opening the head under such circumstances, still the subsequent extraction of the child must have been totally impracticable. It was evident, therefore, that the only course which afforded a prospect of saving either the mother or the child, was the performance of the cæsarean operation. Having explained to the patient the nature of her case, and pointed out the means by which alone she could be delivered, she, without hesitation, expressed her

willingness to submit to any measures that might be considered necessary. Anxious, however, for a further consultation, in a case of such vital importance, it was agreed to request the attendance of Mr. Wood, whose extensive experience as the senior surgeon of the Birmingham Hospital, must necessarily give a more than usual value to his opinion. Having obtained, also, the additional aid of my friends, Mr. Wickenden and Mr. Heath, I proceeded to the operation, in the presence of the gentlemen above-mentioned, about eleven o'clock at night, being about thirty hours after the commencement of labour. The external incision, which was made through the linea alba, passed immediately on the left of the umbilicus, and was about ten inches in length. A portion of intestine immediately protruded, which was carefully kept back by an assistant. The incision into the uterus was commenced near its fundus, by passing the scalpel carefully through its parietes, (which were about an inch in thickness) so as to allow the admission of two fingers. Using my fingers as a director, I rapidly enlarged the opening, by which the placenta was exposed, accompanied by a brisk hæmorrhage. Passing my hand by the side of the placenta, I ruptured the membranes, and, without difficulty, took out the child, which was living. The placenta was then detached, some coagula were removed, the uterus contracted, and the hæmorrhage (which probably did not exceed sixteen ounces,) was immediately arrested. The external integuments were brought together by stitches, which were inserted at somewhat more than an inch apart; adhesive straps

were applied in the intervals, and the whole was secured by a compress and bandage. The cool determination with which the patient submitted to the operation, and the amazing fortitude with which she bore it, are deserving of record; not a groan or a murmur having passed her lips from its commencement to its termination.

One hour after the operation the pulse was 120, and moderately firm. She complained of great and constant pain and smarting. Having taken an opiate, she gradually became more comfortable, and about three o'clock in the morning fell asleep; when I ventured to leave her, requesting to be sent for if necessary.

16th, ten a. m.—Has slept more comfortably than might have been expected. Pulse 120; skin moist; tongue clean. Has had some vaginal discharge, which she thinks has given her relief. The bandage, also, shews the escape of a considerable quantity of fluid from the lower part of the wound. Is tolerably free from pain. As she had voided no urine, a catheter was introduced, and about half a pint was drawn off. Nine p. m.—Pulse 115 and full; free from pain; no thirst; passes considerable quantities of urine.

17th, nine a. m.—Has passed a tolerable night, without pain, Pulse 110 and full. Complains this morning of great flatulence, and has vomited. Having had no alvine evacuation, she was ordered to have an injection of mutton broth. Two p. m.—The injection has not relieved the bowels, which are rather tympanitic, but tolerably free from pain. An enema, containing ol. terebinth. ℥ss. to be

given immediately. Eight p. m.—The injection has brought away large quantities of flatus but not much fæculent matter. Complains still of flatulence and continual heartburn, with occasional vomiting.

18th, eleven, a. m.—Has had considerable pain, with vomiting, during the night, but has slept at intervals: the tympanitis has increased. She was now ordered to take, at intervals of two or three hours, equal portions of soda water and milk, with, occasionally, a little chicken broth. The wound was dressed this morning for the first time; it looks healthy, but no union has taken place. There is, in fact, so much distension, that it is scarcely possible to keep the lips of the wound in apposition; the stitches are kept upon the stretch, and a portion of intestine is visible through one of the intervals. Four p. m.—She is become thirsty, and has distressing hiccough; there is also a general tenderness of the abdomen, with constant, though not violent, pain. The mixture has acted gently on the bowels. Ordered a draught, containing tinct. opii m. xxv. to be taken immediately. Nine p. m.—Thinks herself relieved by the draught; the hiccough continues, but is less violent. Ordered a draught with tr. opii m. l., to be taken at bed-time.

19th, ten a. m.—Has slept well during the night, and is free from pain. Skin moist; pulse 150. Has not vomited since mid-day yesterday; no hiccough since last night. The anasarca is rapidly subsiding. Says she feels very comfortable. The wound looks well, with the exception of two or three small sloughs in connexion with the stitches; produced, no doubt, by the distension. Continues to pass

some lochial discharge per vaginam. As there is some secretion of milk, though in small quantity, she is ordered to apply the child to the breast occasionally, with the view of inducing contraction of the uterus. Eight p. m.—Pulse 145; skin moist; tongue clean, though somewhat dry; the thirst, by no means urgent, The milk and soda water are very grateful to her. Has passed immense quantities of flatus, per anum, in the course of the afternoon, which has diminished the tension, and afforded her great relief, She feels comfortable, and is evidently in good spirits. Repeat the draught at bed-time, with tinct. opii m. l.

20th, eleven a. m.—Skin moist; tongue moderately clean and moist. Has passed a good night, and is free from pain. Abdomen less tense, with much less tenderness. Union has not progressed, although the lips of the wound are now kept in contact without difficulty. As the bowels have not acted since yesterday, she is directed to have a turpentine enema. Eight p. m.—The enema has relieved the bowels, and brought away large quantities of flatus. Tension of the abdomen gradually diminishing. Repeat the anodyne draught at bed-time.

21st, eleven a. m.—Pulse 110. Has slept well. Abdomen much diminished in size. Eight p. m.—Pulse 100. Has put the child to the breast frequently. Complains of griping pains occasionally, especially while the child sucks: the pain is evidently uterine, and is attended with some discharge. Repeat the draught at bed-time.

22nd, eleven a. m.—Pulse 100. The abdomen diminishes in size. The lips of the wound are in

close contact, but there is no apparent union. Nine p. m.—Has had some uterine pain, with considerable discharge of small coagula. The child has sucked freely to-day. Pulse somewhat more full and frequent. Repeat the draught at bed-time.

23rd, eleven a. m.—Pulse 110. Has some thirst this morning. The bowels are free; but she is much distressed by flatulence. Nine p. m.—Not so well; the skin is somewhat hot and dry; and the breathing is short and oppressed, which I have not observed before. The bowels, however, are open; and there is no tenderness. Repeat the draught at bed-time.

24th, twelve at noon.—Is better to day: has slept well, and is free from pain. Pulse 105. Her diet, up to this day, has been restricted to gruel, soda water and milk, and chicken broth. To be allowed chicken or mutton to day, with a wine-glass full of porter. To have a mixture containing inf. cascarillæ ʒvii., tinct. cinch. co., sp. æth. nitr. āā ʒss. The anodyne draught at bed-time, as usual.

25th, and tenth day from the operation.—Is still better to day, though the pulse continues the same, 105. Has more relish for food. The serous discharge, which has escaped from the cavity of the abdomen, through the lower part of the wound, and which has been gradually diminishing for some days past, has now ceased, and is succeeded by a discharge of a decidedly purulent character. Granulations may also be observed at the bottom of the wound. As no further advantage can now be expected from putting the child to the breast, she is ordered to desist from suckling. From this time her

amendment was uninterrupted. It would be not only tedious, but useless, to continue to note the daily progress of the case. Suffice it to state, that the wound, having gradually filled up with granulations, was perfectly healed in about a month.

With regard to the treatment of this case, it is unnecessary to say much. Taking into consideration the deplorable state of health of the patient, I had decided that no depletion, either by bleeding or purging, (if it were possible to avoid it) should be resorted to after the operation, however formidable the symptoms which might supervene. How far the treatment which was adopted, may have contributed towards the happy termination of this case, it is perhaps impossible to say; nor is it easy to determine whether any advantage was derived from the non-adhesion of the lips of the wound, by which a free exit was allowed for the discharges from the cavity of the abdomen. My own opinion is that the want of disposition in the wound to unite by adhesion, was a favourable circumstance. Baudelocque, indeed, thinks it of importance that any adhesions which oppose the escape of the effused fluids, should be daily destroyed. In the present case it is probable that union was, in some measure, prevented by the anasarcous state of the integuments.

The singular disease which led to the deformity in this case, has been usually called mollities ossium, or malacosteon adultorum. That the pelvis of a woman who has borne several children at the full period of utero-gestation, and been delivered without difficulty, should, without any very evident cause, undergo such a change of structure, is very remark-

able, though by no means uncommon. A case is mentioned by Dr. Hull, communicated to him by Mr. Dunlop of Rochdale, of a woman, Susan Holt, who had borne ten children in fifteen years. She was delivered of her first five children by a midwife, without any difficulty. With her sixth she was not so fortunate, the child having presented with the feet, and the midwife, in spite of all her endeavours, having been almost a whole day in bringing down the head. In her seventh labour she was attended by Mr. Dunlop, who found such a degree of deformity in the bones of the pelvis as obliged him to make use of the perforator. In her eighth and ninth labours, the deformity was found to have greatly increased; thus, necessarily, rendering each delivery more difficult than the one preceding. In her tenth labour, which occurred in February, 1801, the distortion had become so extreme, as to render the use of the perforator utterly impracticable. Recourse was consequently had to the cæsarean section, but the woman died on the seventh day from the operation. A very similar case occurred in the same year, (1801) to Mr. W. Wood, of Manchester. This woman, Hannah Rhenbottom, had borne seven children in nine years; all of which were born at the full period of utero-gestation, and without material difficulty. After an interval of six years, she became pregnant of her eighth child. When labour came on, the pelvis was found to have undergone such a degree of deformity, as to render delivery impracticable by any other means than the cæsarean operation. She died in three days afterwards. Mr. Wood remarks that five cases of this disease had

occurred to him in the course of fourteen months, two of which required the performance of the cæsarean operation.

Malacosteon appears to be generally preceded by pains in the hips and loins; which are usually attributed by the sufferer to rheumatism. These are succeeded by general emaciation, by gradually increasing lameness, and by decrease of stature. It is scarcely necessary to remark that the proximate cause of the disease is the removal of the phosphate of lime, and other earthy salts from the bones by absorption. The remote causes, unfortunately, are still involved in considerable obscurity. There is reason to believe, however, that two of the causes which most powerfully contribute to the formation of this disease, are the bearing of children in quick succession, and imprudently suckling them too long, especially during pregnancy. There is, moreover, no doubt that impure air, neglect of personal cleanliness, and poor diet, may be justly placed among the predisposing causes. This opinion is strongly corroborated by the fact, that by far the greater number of cases of this disease have been met with among the lower orders. The two cases which I have just quoted, are of this description. Dr. Hull, in the appendix to his translation of Baudelocque, makes the following judicious remarks upon this point:—"During pregnancy," says he, "the appetite and digestion are very frequently impaired, whence the soft parts of the body are perceptibly wasted; and as the fœtus derives its whole supply of ossifying matters from the mother, I suspect that she is frequently deprived of a portion of these,

which is necessary for her own system. The lameness, to which some pregnant women are subject in the latter months, is not, I think, wholly imputable to the pressure of the gravid uterus, but is partly to be attributed to the cause above mentioned. The slowness of union, or the total indisposition to unite, that has been often observed in the fractured bones of pregnant women, seems to furnish another argument; and as a further proof, it may be observed, that malacosteon, which had made a rapid progress during the latter months of pregnancy, and for some time after parturition, has, in many instances, been checked, or suspended in the intervals of pregnancy and nursing. It is a curious fact, that the bones in the vicinity of the uterus, those of the spine and pelvis, for example, suffer more frequently and in greater proportion, than the bones of the extremities."

The case of Sarah Bate, who is the more immediate subject of this communication, tends, in no small degree, to confirm this opinion. She had four labours and four miscarriages in about eight years. After her last miscarriage, an interval of about three years elapsed without pregnancy, during which time she gradually improved in her health, and so far recovered the use of her limbs, as to be enabled to lay aside her crutches. As soon, however, as she again became pregnant, her lameness returned, accompanied by all her former symptoms, and as the pregnancy advanced, it appeared gradually to induce a more complete state of helplessness, till at length she was incapable of moving from her bed.

After her recovery from the effects of the opera-

tion she again began to improve in her health; and, apparently, derived much benefit from taking, during several weeks, a bitter infusion, with the addition of murias calcis, and tinct. ferri muriat. It may be satisfactory to add, that at the present time, (seven months from the operation) the mother and child are both doing well. The mother, in fact, has lately increased in flesh, and is, evidently, in a state of more perfect health than at any period since I have known her. She is however, diminished in stature full *nine* inches.

I cannot conclude this account without thus publicly tendering my acknowledgments to Mr. Wood, and my other medical friends, for their valuable assistance upon this anxious occasion, and for many important hints upon points of treatment; particularly to Mr. Ingleby, who kindly undertook the management of the case, for a few days, during my unavoidable absence in London.

Birmingham, Dec. 15th, 1835.

ARTICLE XII.

# RECORDS OF OVARIAN TUMOURS.

BY E. BARLOW, M.D.

*Senior Physician to the Bath United Hospital, and to the Bath Hospital, &c. &c.*

THERE are few diseases more intractable than ovarian tumours, few of which the pathology is so little understood. If we are ever to acquire precise knowledge respecting their nature and progress, it must be through multiplied observations, accurately made, of the varied symptoms of the disease, with the effects of medical treatment; of the constitutional derangements involved; and of the structural lesions exhibited by dissection. In the present very imperfect state of our knowledge to record the results of experience, so as to shed any light on a subject so obscure, or even to mark the *juvantia* and *lædentia*, is no unworthy contribution to medical science.

Yet such records are attended with much difficulty, and are hardly to be expected to the extent required, unless practitioners become impressed with the high importance of bringing forward all the facts which their opportunities of observation may afford,

so as to supply the data from which sound conclusions may be eventually deduced. The disease, though sometimes awfully rapid in its progress, is, for the most part of slow advance, and its history becomes diffused over many years. I have known several which became stationary, and have continued so for twenty years and upwards, the tumour remaining, but the general health being re-established. Tedious and intractable as such cases generally are, they usually, from the inefficacy of medical treatment in dispersing the tumour, the anxiety to obtain speedy relief, and the not unnatural hope of procuring this through change of practitioner, pass through many hands, no one practitioner having the opportunity of witnessing the whole progress, or of marking the circumstances which illustrate or obscure it. Even when a case is subjected to continuous observation, the regular notation of symptoms, and of the effects of remedies, required for a full and faithful record of the disease, is a wearisome and, too often, cheerless duty, in which few have firmness to persevere. It is only to be expected, perhaps, in Hospitals, where habit gives facility, and where the purposes of the medical attendant are not, as too often happens in private practice, evaded or contravened. The results, too, of the most skilful and assiduous care, in this very inveterate malady, are, in many instances, so insufficient in eradicating the disease, and, moreover, so little calculated to gratify the vanity of the practitioner, or extend his fame, that we cannot be surprised at cases of this kind not being more freely communicated.

The few cases which it is the object of this paper

to report, were, for the most part, those of hospital patients. When received as in-patients, they were daily visited, and the case was daily noted; when out-patients, they were seen twice a week, and on each occasion a brief note was taken. It will be seen that some of these extend over years, and although the minute records, extracted from the Hospital books, are now before me while I write, they present such a mass of detail, that I am compelled to condense them by extracting the leading facts, and passing over what are insignificant. In this task I shall at least be a faithful analyst, and act to the best of my judgment, having no preconceived theory to support, and hence no temptation to suppress, add to, or alter the facts, as actually recorded at the times of their occurrence.

Ere I proceed with the cases which it is the more immediate object of this paper to record, a few general remarks on ovarian diseases may not be inappropriate.

In the title of this essay I use the simple term ovarian tumour to designate the malady of which I propose to treat, because tumour is the only unequivocal character by which we recognise the disease in its earlier stages. The nature and character of the morbid condition and structural changes producing the enlargement, must, at this period, be conjectural, for though examination of fatal cases has made us sufficiently familiar with the morbid changes exhibited in the later stages, we are not warranted in concluding the earlier derangements to be precisely similar. Indeed there is strong reason for thinking that they cannot be so,—that is, that

the existence of tumour, in the earlier stages, does not denote the same structural lesions which examination of the later stages demonstrates; for incipient tumour does admit of removal by medicinal agency, and were the structural lesion, at this period, precisely similar to that to which it ultimately tends, such fortunate result would be scarcely practicable. Whoever has seen the mass of disease exhibited by an ovarium when it has become thoroughly disorganized, will readily admit the utter hopelessness of such total and extensive disorganization being remedied by any curative process with which we are familiar,—any which our ordinary medicinal agents permit us the means of instituting or promoting. In cases which in the earlier stages yield to medicinal treatment, so far as to exhibit reduction or subsidence of tumour, we can have no demonstrative evidence of what was the kind or degree of organic change which produced the tumour; but it seems a fair inference from the simple fact of such subsidence, that the tumour had not attained the utter perversion of all natural structure, by which the advanced disease is almost universally characterised. And this distinction, though resting on probability alone, is not unimportant, for it suggests, in the first place, that there is a stage of this disease produced by morbid actions alone, and in which these have not yet caused irremediable disorganization; and, secondly, it incites and encourages those remedial procedures by which the disorganized process may be arrested in that stage, in which alone there can be any well founded hope of their proving effectual. And, in a practical view, this latter consideration is

of great importance, for it too often happens that from the obscurity of the early symptoms, and their slow and insidious advance, they are overlooked throughout the period in which they can be most successfully combated. If the present communication be of any practical value, it must be from its throwing some faint light on the constitutional and local treatment by which, according to the writer's experience, it may be stayed in its course.

It would be expedient, perhaps, to commence this essay with some general account of the morbid changes to which the ovaria are liable. But to do justice to this subject would trench too much on limits which I wish not to exceed. With these changes the experienced practitioner is sufficiently familiar; and they who have not had the opportunity of seeing them through necroscopic examination, can be at no loss to ascertain their general nature and character from the records of pathological writers. In *Andral's Pathological Anatomy* (vol. 2, p. 281,) may be found a brief and perspicuous account of them, rendered with all the precision and truth of that acute, pathological and distinguished author. For a more systematic account of the ovaria, their structure, functions, and diseases, much useful and interesting information may be obtained from the "*Illustrations*" of those by Dr. Seymour, Physician to St. George's Hospital, published in 1830.

Waving, then, such general account, I shall proceed to report the cases which I propose on this occasion to submit to the Association, arranging them so as to illustrate the several morbid conditions in the way most likely to give a clear conception of

them, and concluding with such remarks as my experience can supply, or the facts may warrant. I have already said that I have no theory to support, and I shall be quite content if, in the following pages, I can succeed in throwing any light on this severe and inveterate malady, so as to mark what has a chance of arresting its progress,—what incurs a risk of exasperating and confirming it.

The following case exhibits a well marked instance of the disease in its highest intensity, and running its course with unusual rapidity. It acquires additional interest from the evidences which it presents of the inflammatory character of the disease.

Case I.—*Case of ovarian tumour of immense size and rapid growth, which terminated fatally.*—Mrs. E. S., 36 years old, had married at an early age, and borne six children, the youngest of whom was about three years old at the time when the history of this case commences. Her health antecedently had been tolerably good. About Midsummer, 1828, on returning home from a visit made to some of her relations, she appeared out of health, looking ill and with unusual fulness of the abdomen. The latter change had been noticed by the friends with whom she had been sojourning, but without alarm on their part, as they attributed both it and her altered looks to pregnancy. Alarm, however, was soon excited by increasing indisposition, and suspicion of ovarian disease began to be entertained. Careful examination was made, but no fulness or tumour was discoverable in either iliac region. A small tumour was distinctly felt, but it lay about midway between the umbilicus and symphisis pubis,

and nearly under a line drawn between these points. There was great irritability of constitution, and medicines of every kind were badly borne. In a short time effusion into the abdomen took place, marked by distinct fluctuation. This effusion was clearly in the peritoneal cavity, for the tumour could be felt within it. Enlargement proceeded rapidly; but fluctuation became indistinct, and at length ceased to be felt. Much suffering was endured, which terminated in death towards the end of October. A short period before death an attempt was made to relieve the oppressive distension by tapping, but unsuccessfully. The effusion being then encysted a single sac only was punctured; but little fluid was drawn off, and the distension was unrelieved. Worn out by suffering and exhaustion, she did not survive the operation many days. On the day after her demise the body was carefully examined, and the following report was drawn up, at the time, by the surgeon who conducted the examination :—

"*Examination of the body of Mrs. E. S., Oct. 31st,* 1831.—Nearly the whole abdomen was filled by a large tumour. The diaphragm was forced up into the thorax. All the small intestines, with the stomach, were pushed up under the ribs. The colon was empty and contracted in its whole course, and much compressed by the tumour at the sigmoid flexure. The peritoneal surface was every where inflamed. The convolutions of the small intestines were glued together by recently effused coagulable lymph, but were easily separated. Two folds of the ileon adhered to the upper part of the tumour, not by recent adhesion, the knife being required to

separate them. The peritoneal covering of the liver was covered with flakes of lymph. The liver was very pale and small. The parietes of the abdomen adhered to the anterior part of the tumour by the same recent connexion of lymph. The tumour appeared, externally, as one uniform cyst, but when cut into, it was found to be made up of innumerable cysts of different sizes, and in different states; some were not larger than a marble, and contained fluid of a milky whiteness; others contained the same kind of mahogany-coloured fluid that was let out at the operation, with large flakes of lymph mixed with it, approaching the nature of pus; others contained a fluid having the consistence, the appearance, and the odour of pus. Most of those in the centre of the tumour were highly inflamed. Most of the cysts were thick, with large blood-vessels running on their surface, and they were divided and subdivided by cellular bands. The largest cyst would have held eleven or twelve ounces. The left side of the tumour extended into the pelvis; the right side, and the great bulk of the tumour, were elevated above the pelvis. It was the right ovarium, unconnected with any other part except by the adhesions to the anterior parietes. The right fallopian tube was distinct and free from disease; its fimbriated extremity was open and loose. The left ovarium, and fallopian tube, the uterus and its ligaments, were all perfectly sound. The opening in the linea alba, made by the trocar, was closed, so as not to be discovered but by the cicatrix. The opening in the cyst was not closed. There were some old adhesions of the right pleura, but the lungs

were free from disease. The heart was small, but the ventricles were firmly contracted, particularly the left. It was the reverse of a flabby heart. There was no serum either in the pleura or pericardium."

The late Mr. Abernethy had chanced to see this case during its progress; and on a report of the dissection being forwarded to him, he returned the following remarks:—"I do not remember a diseased ovary advancing with such continued irritability or disposition to inflammatory action. In general they have this disposition at their commencement, but as they advance they become indolent. When the ovary is irritable it is apt to communicate inflammation to the peritoneum by which it is covered. An ovary so circumstanced would, in my opinion, be unfavourable for an operation; for though the relief of the distension might produce a temporary mitigation of the disease, yet it would be likely to recur. The ovary, when sarcomatous, consists of an aggregate of cysts, which communicate more or less freely with each other. A larger cyst may enlarge, and the remainder occupy but little space, and then we call it dropsy; but it may happen otherwise, as in the present unfortunate instance."

Throughout the foregoing dissection, evidences of a pervading inflammatory action are clearly demonstrated, and it is difficult to conceive how the progress of such a malady could be stayed, save by such medical treatment as should have for its main object the subduing of inflammation. Further evidences of this tendency, and confirmatory of this principle, will be seen in the following pages.

The next case which I shall report, is one of the

kind referred to in Abernethy's remarks, where a single sac enlarges and becomes the seat of dropsical effusion, the remainder of the diseased ovary occupying but little space.

CASE II.—*Case of ovarian dropsy, which for a long period presented the general characters of ascites, and in which the action of mercury on the system was eminently injurious.*—About the close of 1823, Miss E. S., age 22, applied to me on account of impaired health. She had been declining in strength for several months, without any prominent ailments, and from the absence of symptoms, her illness had been imputed to dyspeptic derangements. To these had the treatment been directed, but without any benefit resulting from it. At this time, however, there was sensible fulness of the abdomen, and, on examination, distinct fluctuation was perceived; but neither in the history of the case, nor from examination, did aught appear to excite suspicion of the ovaries, the intumescence having all the character of peritoneal dropsy. Remedies were prescribed with a view to remove the dropsical effusion. Shortly after acute symptoms set in, with tenderness of abdomen, apparently caused by some degree of peritoneal inflammation. At the time I was disposed rather to hail this occurrence as likely to prove favourable. It seemed to throw light on the antecedent effusion, which I was inclined to ascribe to some congestion or subacute inflammation, and my hope was, that by adequate treatment of the acute affection, the more chronic malady would be corrected. In this expectation I was deceived. Active treatment, by local blood-letting

and other remedies, speedily relieved the inflammatory affection, but the preceding malady underwent no change, and the size was undiminished.

The ordinary treatment of this case was carefully attended to, with the special caution of not impairing the general health by a too active use of remedies; and, for a considerable time, she continued able to exercise her profession as a teacher of drawing, and to attend her pupils at their own abodes. Enlargement, however, advanced, slowly but steadily, and in February, 1825, I find the circumference of the body noted at $36\frac{3}{4}$ inches, the daily urine amounting to 24 ounces. On the 15th of March it became necessary to tap her, in order to relieve extreme distension, and $21\frac{1}{2}$ pints of straw-coloured serum, such as is usual in ascites, were drawn off. From this period the successive tappings may be traced in the following table:—

| Date of Tappings. | Quantity. Pints. | Date of Tappings. | Quantity. Pints. |
|---|---|---|---|
| 1825.—15th March, | $21\frac{1}{2}$ | 1826.—4th July, | 17 purulent. |
| 13th May, | $10\frac{1}{2}$ | 25th July, | 8 purulent. |
| 22nd July, | 15 | 22nd Aug. | 4 |
| 9th Dec. | 12 | 9th Oct. | $8\frac{1}{2}$ semipurulent. |
| 1826.—24th April, | 27 | 13th Nov. | 11 |
| 10th June, | 21 purulent. | 4th Dec. | 13 |

Soon after the last tapping, her health having been gradually declining for several months, she died.

On dissection, the disease proved to be ovarian, the seat of effusion being one large sac arising from the left ovarium, and extending over the whole abdomen. At the bottom of the sac the ovary was considerably enlarged; and, when cut, exhibited a congeries of sacs of different sizes, filled with all the

different secretions which such tumours usually present. The principal sac which covered the several viscera, was but slightly adherent to the parts around, and easily separated, no vascular attachments having taken place. The preparation was preserved, and for a while admitted of being displayed so as to exhibit the whole structure and morbid changes; but in time the surrounding liquor acted on it so as to condense the sac into a solid mass. It would have been better to have inflated the sac and made of it a dry preparation.

I introduce this case as affording a well-marked instance of one form of ovarian disease, that, namely, where one sac expands and becomes the seat of serous effusion, constituting what is usually called ovarian dropsy. But my chief object in reporting it is, that I may advert to one part of the treatment, the employment of which I subsequently regretted. Some time previously to the tapping of June, 1826, the general health was giving way, and disease obviously making more rapid advance. It was very desirable to arrest its progress; and after deliberate consultation a more active use of mercury was resolved on as worthy of trial. She was confined to bed; took full doses of calomel; and, as the system was not easily affected, inunction was conjoined. The gums became tender, but salivation was not induced. After pursuing this course for a certain time, it was relinquished, not from any ill effects immediately induced, but from the hopelessness of any benefit resulting. Very shortly after, however, the constitution seemed at once to give way; sickness and vomiting occurred, the mouth and fauces

were filled with aphthæ, and there was good reason to believe that a similar condition pervaded the lining membrane of the whole alimentary canal. With great difficulty was she recovered from the exhaustion that ensued, bark and wine being largely required. She did recover, however, from the constitutional disturbance; but, on the next ensuing tapping, in June, the contents of the sac, instead of the straw-coloured serum antecedently drawn off, proved to be complete pus, such as any large abscess would yield, and which was evacuated to the extent of twenty-one pints.

The two following tappings, of the 4th and 25th of July, also yielded purulent matter; after which the purulency abated, and the fluid discharged was noted as semipurulent, but it never recovered its serous character.

What I wish to direct attention to, is the injurious effects which ensued on the free use of mercury in this case. That mercury ever acts favourably on the morbid structure of diseased ovaries, is not established by any clear evidences with which I am acquainted: and here we have one instance, at least, in which highly injurious effects are justly attributable to it. There can be little doubt, I think, that in this instance it was the action of mercury on the constitution which changed the character of the secretion, and occasioned all the concomitant disturbance. I do not say that it actually destroyed life, for disease was hastening to a fatal termination when mercury was resorted to; but from the constitutional disturbance excited, and the consequent exhaustion, it contributed to hasten the termination,

while the special disease was aggravated instead of being allayed. In the treatment of such diseases, then, I would never again resort to the free use of mercury, with the view to make a direct impression on the tumour, or arrest the progress of disorganization. Small doses I do employ in such cases, as alteratives, when the peculiar state of the general health, or the attendant derangements, vascular or intestinal, require their use, just as I would administer them with the same design in any other malady ; but with any view to a direct beneficial effect on the morbid growth of a diseased ovary, so far from expecting benefit from the free employment of mercury, I would deprecate its use.

I am not aware of there being yet sufficient facts before the professsion, on which to found any well grounded opinions as to the effects of mercury in this disease ; the remedy is more or less employed in its treatment, with a view to promote absorption of morbid secretions and depositions, or otherwise alter the morbid actions going forward ; and as the foregoing report furnishes some evidence that injurious effects may ensue from its use in such cases, I am anxious that the facts here recorded should be generally known

The next case furnishes an instance of rapid progress, and fatal termination ; the latter immediately caused by a casualty which is, happily, of rare occurrence.

Case III.—*Case of ovarian disease, in which death was caused by internal ulceration of the sac, followed by rupture, and effusion of its contents into the cavity of the abdomen.*—Mary Hulse, aged 40, a domestic

servant, was taken ill about the middle of June, 1831, having been, by her own account, previously in good health. Abdominal pains were speedily followed by enlargement of the abdomen and swelled legs. So rapidly had the enlargement increased, that on the 3rd of July, when she first placed herself under the care of a judicious practitioner, he noted the size as equal to that of a woman in her eighth month of pregnancy. Her general health was much disturbed. Notwithstanding the diligent use of remedies skilfully administered, the size rapidly increased, with so much tenderness of abdomen, and acute pains, as to call for blood-letting, the blood being thickly buffed and cupped. On the 15th, the tension, pain, and difficulty of breathing were so great, that it became necessary to tap her, and 13 pints of dark puriform fluid, having flocculi of lymph intermixed, were discharged. After the operation, the size, which had reached 38 inches, was reduced to $28\frac{1}{2}$, she could lie down, and was, in all respects, greatly relieved. Her general health, too, which had antecedently been greatly impaired, improved so rapidly, that though she had previously been confined to bed, she was able in a few days to resume some active occupation, walk abroad, and take exercise. The amendment, however, was of short duration; effusion was speedily renewed, her health again declined, and on the 3rd of August she was admitted an in-patient of the Bath United Hospital.

On the 4th, the circumference of the body was 36 inches. The urine was scanty, amounting only to 4 ounces in the 24 hours. The size progressively in-

creased, and on the 8th had again reached 38 inches, when the peculiar distress and suffering which had preceded the previous tapping being on the increase, orders were given for her being again tapped the following day. Owing to circumstances this was delayed, and as she did not appear to lose ground, it was not pressed, the rather as the general impression is in favour of delaying the operation as long as possible in ovarian dropsy. The result of delay, however, was here unfavourable, for on the night of the 11th, she was seized suddenly, about eleven o'clock, with sickness, vomiting, giddiness, colliquative sweats, and extreme prostration of strength, she passed a very unquiet night, and about half-past twelve next day expired.

Examination of the body sufficiently established the nature of the disease, and the cause of its sudden termination. The sac containing the fluid was ovarian; ulceration had taken place within it; and, through a passage thus opened, the contents had escaped into the cavity of the abdomen. The case is worthy of note, as shewing that the general rule of being slow to tap in ovarian dropsies, is not always to be followed. That the foregoing case could, under any circumstances, have ended in recovery, is in the highest degree improbable; yet it is clear that to the delay in tapping, was its sudden termination attributable. Had the operation been performed on the 9th, the rupture of the sac, which occurred on the 11th, would not have taken place, at least not so soon. From the peculiar termination of this case, I consider it well worthy of being borne in mind.

I shall report a few more cases of unfavourable result, in order to exhibit the ordinary progress of the disease, and then proceed with some that had a more favourable termination.

Case iv.—Catharine Edwards, age 40, was admitted an in-patient of the Bath United Hospital, on the 4th of September, 1830, for abdominal dropsy, which was at first considered as ascites. She had been ill two months. With the exception of a few intervals, during which, at her own desire, she returned to her friends who lived in the country, hoping to benefit by change of air, she remained a patient of the hospital until her death, which took place on the 19th of September, 1831. The minute details of this case, for the whole period, are now before me, but to record the whole would be tedious and of little interest. Medicine produced much effect by increase of diuresis, and reduction of size; the latter to such extent, at one time, as to justify the hope of the disease being subdued; for under the increased flow of urine, amounting to from 50 ounces to 70 and upwards a day, the circumference, which had reached 40 inches, gradually decreased to 30, and continued at this for some time, no fluctuation being at this time perceptible. Such reduction was effected more than once, and even after tapping was had recourse to; and the explanation I believe to be that the fluid thus absorbed, was what was effused into the peritoneum, and exterior to the ovarian tumour. The latter, however, continued to advance so as to occupy the whole cavity, as was sufficiently manifested in the latter stages, and eventually to destroy life.

Unhappily the prejudices of friends prevented an examination of this case after death, but the loss was not great, for there were circumstances enough to place beyond doubt the real nature of the disease, and, in all probability, nothing would have been discovered by dissection, beyond the inordinate growth and morbid changes which diseased ovaria usually present. I shall now briefly notice whatever a review of the detailed history may offer worthy of remark.

On her admission, in September, 1830, the circumference of the body was 36 inches; the urine passed in 24 hours was 38 ounces, no albumen being discoverable in it by any of the usual tests. Various remedies were employed, as circumstances indicated; blue pill and squill, acetate of potash, supertartrate of potash, nitre, calomel and opium, mercurial frictions, digitalis, purges of jalap and nitre, iodine, and others, with the effect of increasing, considerably, the flow of urine, and of reducing the size. This, on the 20th of September, had reached 41 inches, from which time it progressively declined until the 18th of October, when the measurement recorded was but 30 inches, there being no fluctuation then perceivable. The urine, at this time, amounted to from 60 ounces to 80 a day. The same measure continued till the 27th, when a slight increase again took place, and from this, onward, enlargement proceeded, with occasional variations, so as to reach 42 inches by the 17th of December. On the 24th of this month she became very anxious to return to her friends, and was, in consequence, discharged.

On the 9th of January, however, she again pre-

sented herself for re-admission, the size being 43 in., and the general health not worse than when she left the hospital. From the extreme distension it now became necessary to relieve her by tapping, and on the 11th, 32 pints of serous fluid were drawn off. By this the size was reduced to 33 inches, but effusion continuing, she speedily enlarged so as to reach 46 inches on the 8th of February, when she was again tapped, and 33 pints were withdrawn. This operation produced less reduction, for on the 14th the size appears to have been 38 inches, and it continued to increase until the 1st of March, when it once more reached 45 inches. On the 4th of March she was tapped for the third time, and 26 pints were removed. On the 9th she was still 40 inches in circumference, but from this period decline of size again commenced, and proceeded regularly till the 2nd of April, when she measured only 30 inches, continuing at this size until the 17th. From this she again enlarged, but though on the 24th the measurement was $35\frac{1}{2}$ inches, the general health was reported as unimpaired. At this time some slight pains of an acute character in the epigastrium, with tenderness on pressure, induced me to take blood, and 10 ounces were drawn from the arm. The pains were much relieved, and the blood was partially buffed. At her own request she was again bled, on the 26th, to the same extent, the blood being both buffed and cupped. Enlargement advanced, howevever, and on the 14th of May tapping was once more resorted to; on this occasion, however, it failed, no discharge of fluid being obtained, the solid tumour having advanced, so as to occupy the place previously filled

by the serous effusion. Her general health being undisturbed, and there being no prospect of speedy amendment of the special disease, she became once more anxious to return home, in the hope of benefitting by change of air. On the 23rd of July she was again re-admitted, the size being 41½ inches, the urine scanty, and the general health impaired. Increase of suffering, from distension, called again for tapping, and on the 13th of August an attempt was made, in the hope of puncturing a sac, and thus affording some relief. By carefully selecting the place of puncture, this was effected, and 10 pints of dark coloured fluid were drawn off. From this time there was little to report. On the 14th of September, one more attempt was made to relieve by tapping, but only 8 ounces of fluid could be procured. Her strength, which had been declining from her last re-admission, now gave way, and she died on the 19th.

There can be little difficulty in tracing the progress of disease in the foregoing case. That it commenced in the ovarium is tolerably certain. This gave rise to the early effusion, which was clearly peritoneal; and this accounts for the effect of medical treatment in procuring its occasional absorption and removal. Had the dropsy been purely ascites, recovery would, in all probability, have been effected; but although the fluid secreted was more than once removed through natural outlets, the original cause of disturbance continuing, it was continually reproduced, until the encroachment of the ovarian tumour occupied its place, and the advance of the latter diverted to its own morbid

growth, those supplies which had antecedently furnished the peritoneal effusion. A similar progress was strongly marked in the first case recorded.

The following case illustrates little save the ordinary progress of the disease, when the endeavours to arrest its progress, by restraining morbid growth, are unsuccessful. In it there was a large mass of ovarian tumour, effusion into the peritoneum, absorption of this fluid, and, eventually, progressive advance of the tumour, until death closed the scene.

Case v.—Sarah Parsons, aged 35, was admitted an in-patient of the Bath United Hospital, on the 13th of August, 1828. She had borne three children, the last about three months back, from which time she had never been perfectly well. In the July of the preceding year, soon after her last confinement, she had been a patient of the Hospital for a short time, under my care, for uterine irritation and prolapsus, which were soon relieved.

On her admission there was great enlargement of the adomen, with fluctuation, and a large irregular tumour was discoverable in the hypogastrium, of the nature of which little doubt can be entertained. Various remedies of the ordinary kind were administered, under the use of which the peritoneal effusion was removed, and the abdomen reduced, the general health being unimpaired; but no impression was made on the morbid growth of the ovarium. On the 18th of September is the following note: "Fluid seems all removed;" and on the 3rd of September she was discharged, the following record being made: "Dropsical effusion quite removed, health unimpaired, tumour remains."

The relief, however, was of short duration, for the effusion soon returned, and on the 29th of December she was re-admitted, requiring to be tapped the same day. Suitable remedies, which it would be useless to particularize, were again resorted to, and with effect, so as to enable her to return to her family on the 24th of January, much better in health, and able to resume her domestic duties. For awhile after she continued to attend as an out-patient, but, her strength declining, she was eventually visited at home; and the case becoming hopeless, regular records ceased to be kept. Her death took place on the 1st of August; and the nature of the disease was proved by dissection. Unluckily, the report of the examination has been mislaid, but my recollection of it is sufficiently distinct to say that it differed in nothing from the ordinary records of similar cases.

I now come to cases of more favourable termination; and the most signal of these is that which next follows, the recovery being, to all appearance, complete and permanent. This case I consider peculiarly valuable, as tending to connect the morbid action in the ovaria with the constitutional state more intimately than is generally imagined. In its treatment depletion was freely yet cautiously used throughout; inflammatory action was never suffered to continue unrestrained; in proportion as general vascular action was allayed, were the ovaria tranquillized, and the progress of their morbid growth stayed; and the success of the practice, in effecting their final reduction, affords a satisfactory evidence that this generally ruthless malady is not always incurable.

The evidences of a congestive or inflammatory condition of the ovaria were here, happily, not demonstrated by dissection, as in some of the preceding cases; but they were sufficiently manifested by indications not to be mistaken; and whatever credit is due for the successful issue, must be assigned to the promptitude, steadiness, and perseverance, with which depletory treatment was pursued. In the course of treatment which was continued for years, I was materially assisted by the clear intelligence and good sense of the patient. I had, also, a signal advantage in the timely warning which the state of the tongue invariably gave of the approach of inflammation. Ere this latter became evinced by pain, heat of skin, quickened pulse, or other indications, the tongue gave evidence of what was approaching by a peculiar dark dry streak along its centre. If disregarded, this soon spread over the tip of the tongue, progressively widening towards the sides; after which, in a very short time, acute inflammation was sure to display itself.

When taught by experience the value of this premonitory indication, it became the chief circumstance for marking when blood required to be taken, either generally, or topically, and in no instance was its guidance otherwise than most salutary, for by prompt application, the constitutional disturbance, which ushered in the local accessions, was speedily tranquillized; while the local symptoms, when they were combined, were as promptly relieved. It was repeatedly found that the earlier the indication presented by the tongue was attended to, the more effectual was the relief, and the more speedy

was the convalescence; and for whatever good health this individual now enjoys, she is indebted to the vigilance and intelligence with which she watched the course of symptoms, and the promptness with which she applied for relief, when her own judgment and observation pronounced it to be needful. Though of the humbler class of the community, she possessed a sound understanding, sufficiently cultivated to enable her to subsist herself by keeping a school; and this circumstance affords explanation of the frequent admissions and discharges which may appear in the following report. While able to continue at her post, she preferred always being an out-door patient, though residing a considerable distance from the Hospital. When too ill to continue her labours, she took refuge in the Hospital, as an in-patient; she always availed herself of her earliest capability to resume her domestic duties.

In other respects the intelligence of this patient often assisted my judgment in regulating her treatment, and determining in what way relief would be best afforded. Oftentimes, when balancing whether to take blood from the arm, or by cup or leech, has she decided me, by stating her own belief of what would benefit most,—a persuasion founded on her experience of past treatment, and unbiassed by the apprehension of pain, by which weaker minds would have been influenced. Many times, when local depletion was indicated, have I hesitated to apply cupping glasses to the hypogastria, lest the pain occasioned should be too severe, when she urged me to disregard such consideration, as she was sure that cupping

would relieve her more than any other remedy. It is time, however, to enter on the details of this interesting and instructive case. In attempting this, however, considerable difficulty arises, from the very copiousness of these details as extracted from the Hospital books. The minute particulars, extending as they do over years, would be tedious and uninteresting; while to prepare from them such a digest as shall contain all that is essential for conveying a clear conception of the symptoms and treatment, without becoming prolix, is no easy task. It appears to me that I shall best fulfil the purpose I wish, by taking separately the period between each admission and discharge, and noting, briefly, what took place within it. In the course of three years and a half, which the history of this case embraces, the subject of it was a patient of the Hospital eighteen times,—ten as an out-patient, eight as an in. The events of each of these periods I shall now consecutively report.

Case vi.—Sophia Wilkins, aged 21, became an out-patient of the Bath United Hospital, on the 13th of September, 1828, for febrile complaints, accompanied with acute pain in the lower part of the abdomen. There was diffused tenderness, but the chief seat of pain was in the iliac regions within the pelvis, begetting a supposition that the ovaria were the parts principally affected. The accuracy of the diagnosis was amply proved by the subsequent progress of the disease. By blood-letting, purgatives, and other suitable treatment, fever was allayed, but the abdominal pains were much less tractable. These required active and assiduous treatment; and

in order to pursue this with more effect, she was admitted an in-patient on the 22nd of October, having been previously freely leeched and blistered.

On her admission, there was great tenderness of the abdomen, with intestinal pains and loose bowels. And here I may mention that in the more severe cases of ovarian disease, I have ever found diarrhœa frequently recurring, and difficult to deal with. In moderate degree it has seemed to mitigate the other symptoms, yet its severity required to be restrained. The best means of allaying it have been occasional doses of rhubarb and calomel, for removing morbid secretions; and light cordials, with small doses of laudanum, to restrain the looseness. These failing, Dover's powder or solid opium has supplied the deficiency, but direct astringents have not answered. A free state of bowels has been always necessary, the character of the internal secretions being a main object of attention, and so long as these presented a vitiated appearance, the use of rhubarb and calomel, as an evacuant, has been indispensable. Such remarks as the foregoing I introduce as I proceed, as they apply, more or less, to all the cases with which I have had to deal. On this occasion she remained an inmate of the Hospital until the 16th of January, when she was discharged, much better, having suffered in the interval from various incidental affections of the head, chest, and bowels, in addition to the primary and more permanent disease. She had several epileptic fits, pains of chest with cough, general tenderness of the abdomen, accompanied sometimes with diarrhœa, sometimes with costiveness, there being more or less of febrile excitement throughout.

The treatment was modified as either special malady prevailed. Blood was taken from the arm, and leeches were applied to the temples. For the pulmonary affection the chest was blistered, and pectoral medicines were given. The bowels were regulated, diarrhœa being at times corrected by doses of rhubarb and calomel, and the cordial mixture with opium, and at others kept free by different aperients. To the abdomen, and especially at its lower part, leeches were freely and repeatedly applied, followed by successive blisters. Small doses of hydrarg. cum creta were also administered for some time, so as to affect the gums. Under this treatment she so far recovered, as to be discharged, much better, on the 16th of January, 1829.

The amendment, however, was of short duration, for on the 31st of the same month, she was obliged to return to the Hospital, as an in-patient. There was again diarrhœa, with renewed abdominal pains. The former required the use of solid opium, in addition to the ordinary remedies; the latter yielded to leeches, blisters, and hip bath, assisted by general febrifuge treatment; and on the 10th of April, her complaints were all so much relieved, as to admit of her being made an out-patient. As an out-patient she continued till the 4th of July, when she was discharged, being reported as nearly free from complaint. In the interval, however, she was obliged to continue the use of her medicines, blisters having been twice applied over the chief seat of abdominal pain, and both the cordial mixture with opium, and the pectoral remedies being required.

But the ovarian disease being unsubdued, and

the contingent maladies continuing to recur, she returned once more to the Hospital, as an out-patient, on the 22nd of July. Blood-letting was employed, and medicines were exhibited, but on the 28th of July it became necessary again to admit her as an in-patient. The head was now much affected with renewal of epileptic fits, and active treatment was required to relieve the brain. She was bled from the arm, leeched on the temples, cupped on the nape of the neck, and blistered in the same place; notwithstanding which, a slight paralysis of the right side took place on the 17th of September. This, however, soon passed away, and on the 2nd of October, she left the Hospital much relieved.

On the 19th of December, the activity of disease within the pelvis, with the several attendant derangements, obliged her once more to seek relief, and she became an in-patient. From this to the 27th of January, 1830, she underwent much active discipline, having been bled from the arm, and repeatedly leeched both over the hypogastrium, and around the anus, blisters being also re-applied. The usual amendment followed; and on the 27th of January, she was made an out-patient, the report being—nearly free from complaint.

As an out-patient she again required blood-letting and leeches, with the opiate cordial mixture and pectorals; but the disease increasing she again entered the Hospital as an in-patient, on the 31st of March.

In reference to the epileptic seizures I should mention, that they were not peculiar to this case, similar attacks having occurred in several other se-

vere cases of ovarian tumours, that have come under my notice. Indeed, I hardly know an internal affection that has not, at some time or other, in the course of this disease, made its appearance, and been the source of additional difficulty. Brain, lungs, heart, liver, stomach, have all been the seat of acute seizure. Even the kidneys have been the seat of well-marked local inflammation; and in each instance the contingent disturbance required the same attention, and the same activity of treatment, as if it were the primary and sole complaint. This treatment I have never, for many years, hesitated to employ; my impression, derived from whatever experience I have had, being, that while it obviated the contingent malady, it was also one of the most powerful means for combating the ovarian disease.

From the 31st of March to the 7th of June, the treatment was still active: she was bled repeatedly from the arm, had leeches freely applied, followed by blisters, with various other remedies. Some evidence of uterine health was now presented, for, after long absence of the catamenia, they reappeared. The hypogastric fulness, however, was obviously advancing; and the tumour on the right side became so prominent, that, after due depletion, I applied over it a caustic issue, having had reason, from former experience, to judge favourably of this remedy. In a case, yet to be reported, so signal was the benefit of this application, that, notwithstanding the suffering which it induced, the patient has herself solicited me to repeat it, from her consciousness of the relief which it had afforded. The

same remark applies to the application of large blisters: these I have used, more with a view of relieving the general tenderness of the abdomen, and of reducing the enormous distension that frequently attends, than of making any direct impression on the diseased ovaria; but for those purposes it has proved a more powerful agent than any I can mention. From the extent of surface vesicated it causes great pain; yet this has been disregarded by patients, in their anxiety to obtain again the advantage previously derived from it: repeatedly have I been petitioned by the parties to order its renewal.

On the 7th of June, she was discharged, "greatly improved," and again made an out-patient. As such she continued until the 6th of October, still requiring active treatment, for in this interval she was bled from the arm, twice cupped in the neck, and three times in the abdomen; notwithstanding which, active disease kept its ground, and on the 6th of October she was re-admitted an in-patient. A new symptom by this time presented itself, in occasional hæmatemesis.

From this to the 13th of December, the principal treatment was still depletory, blood being twice taken from the arm, leeches being applied freely to the abdomen, cupping glasses several times to the abdomen, and once each to the neck and over the kidneys, no other treatment availing. The effect was apparently complete, for, on the 13th of December, there was so little trace of disease that she was discharged, "free from complaint."

The relief was now of longer duration than it had antecedently been, for she did not again appear until the 13th of February, 1831. Blood-letting,

cupping, and leeches, were still the remedies required. Tartar-emetic frictions were also conjoined. The complaints again yielded, and on the 11th of April she was discharged, much better, and made an out-patient. One more cupping was required, in May; and on the 28th of this month she was discharged, apparently free from complaint.

On the 29th of June, a renewal of pains in the hypogastrium, with dry tongue and loose bowels, caused her to apply once more, as an out-patient. She was bled from the arms, and cupped three times, but without sufficient relief; and on the 20th of July, she, for the last time, entered the Hospital. Bleeding, cupping, blistering, were all again needed, and on the 5th of August she was discharged well. Thrice, subsequently, she had occasion to attend as an out-patient. On the 3rd of September, a renewal of complaints called for blood-letting and cupping. Epistaxis appears here among the contingent derangements. On the 1st of October, she was discharged well. On the 10th of December, further relief was needed, and from this to the 25th of January, 1832, she was twice bled, and had leeches once. The relief was complete, and she was again discharged well. On the 21st of April, she made her last appearance, requiring her usual discipline. She was bled twice from the arm, had cupping glasses twice, and on the 23rd of June, took her final leave, so far as ovarian disease was concerned, for from this time it ceased to disturb her. Repeatedly within the last three years I have had occasion to see her, under slight indisposition, but although this has generally been marked by the

usual febrile excitement, there has been no renewal of ovarian derangement evinced by either tumour or pain. When I last saw her, she was in perfect health. It is right to mention, that notwithstanding the freedom and perseverance with which blood was drawn, in the treatment of this case, no injurious effect was ever perceptible, nor would any one have imagined from her appearance, that she had lost an ounce of blood. It may not be uninteresting to present here, a tabular view of the several bleedings, leechings, cuppings, and blisterings, that were required in the treatment of this very protracted case.

TABULAR VIEW.

VENÆSECTIO.

| | | |
|---|---|---|
| 1828.—Sep. 13, | ..... ad. oz. | 12 |
| Dec. 29, | ..... | 10 |
| 1829.—July 22, | ..... | 12 |
| Aug. 24, | ..... | 10 |
| 1830.—Jan. 10, | ..... | 10 |
| Feb. 20, | ..... | 12 |
| March 31, | ..... | 10 |
| April 17, | ..... | 12 |
| Aug. 18, | ..... | 10 |
| Nov. 22, | ..... | 10 |
| Dec. 6, | ..... | 10 |
| 1831.—March 16, | ..... | 10 |
| ... 26, | ..... | 10 |
| July 2, | ..... | 10 |
| ... 25, | ..... ... | 12 |
| Sep. 17, | ..... | 10 |
| Dec. 10, | ..... | 10 |
| 1832.—Jan. 7, | ..... | 10 |
| | | 190 |

HIRUDINES.

| | | | |
|---|---|---|---|
| 1828.—Sep. 17, | ... | 8 | temp. |
| Oct. 18, | ... | 12 | abdom. |
| ... 23, | ... | 12 | ... |
| ... 25, | ... | 12 | ... |
| Nov. 14, | ... | 12 | ... |
| ... 26, | ... | 6 | temp. |
| 1829.—Jan. 9, | ... | 8 | temp. |
| Feb. 17, | ... | 12 | abdom. |
| Sep. 1, | ... | 10 | temp. |
| Dec. 20, | ... | 12 | abdom. |
| ... 24, | ... | 12 | ... |
| ... 25, | ... | 12 | ... |
| ... 29, | ... | 12 | ... |
| 1830.—Jan. 18, | ... | 8 | circa anum. |
| Feb. 24, | ... | 12 | abdom. |
| April 1, | ... | 12 | ... |
| ... 18, | ... | 12 | ... |
| May 1, | ... | 8 | circa anum. |
| ... 3, | ... | 18 | abdom. |
| ... 24, | ... | 12 | ... |
| Oct. 6, | ... | 12 | ... |
| Nov. 5, | ... | 12 | ... |
| ... 14, | ... | 12 | ... |
| 1831.—Feb. 13, | ... | 24 | ... |
| ... 23, | ... | 18 | ... |
| March 1, | ... | 18 | abdomini. |
| ... 6, | ... | 18 | ... |
| ... 27, | ... | 18 | ... |
| July 22, | ... | 12 | ... |
| ... 24, | ... | 8 | circa anum. |
| 1832.—Jan. 4, | ... | 12 | abdom. |
| | | 386 | |

CUCURBITULÆ CRUENTÆ.

| | | |
|---|---|---|
| 1829.—Sep. 3, | nuchæ ad oz. | 10 |
| ... 17, | ..... | 12 |
| 1830.—May 12, | ..... | 10 |
| Aug. 7, | ..... | 10 |
| ... 21, | ..... | 10 |
| Sep. 1, | abdomini, | 12 |
| ... 8, | ..... | 12 |
| ... 18, | ..... | 12 |
| Oct. 7, | ..... | 12 |
| ... 11, | ..... | 12 |
| ... 14, | supra renes, | 8 |
| ... 29, | abdomini, | 12 |
| Nov. 1, | nuchæ, | 10 |
| 1831.—March 9, | ..... | 12 |
| ... 25, | abdomini, | 10 |
| May 7, | ..... | 12 |
| June 29, | ..... | 12 |
| July 6, | ..... | 12 |
| July 16, | abdomini, | 12 |
| ... 21, | ..... | 12 |
| Sep. 14, | ..... | 12 |
| | | 236 |

VESICATORIA.

| | | |
|---|---|---|
| 1828.—Oct. 11, | ... | lateri. |
| Nov. 1, | ... | abdomini. |
| Dec. 3, | ... | ... |
| ... 19, | ... | ... |
| 1829.—Jan. 1, | ... | pectori. |
| ... 31, | ... | abdomini. |
| May 2, | ... | ... |
| June 6, | ... | ... |
| 1830.—Jan. 1, | ... | ... |
| Feb. 19, | ... | ... |
| Nov. 15, | ... | lateri. |
| 1831.—March 12, | ... | nuchæ. |
| | | 12 |

The two following cases are interesting and extraordinary, the parties having suffered most severely for years from disease unequivocally ovarian, so far as the evidences of locality, pain, and well-defined tumour could characterise it, and of great intensity, yet having finally recovered, so as to marry and beget healthy children. Both of these cases were, apparently, among the worst that I have ever encountered; in these the disease seemed to exist in its most inveterate form; they suffered exquisitely, both from local malady, and from various incidental derangements; very little hope was entertained that even life could be preserved; while such a result as was finally verified, seemed utterly impossible. On the termination of these cases I can found no reasoning, and have no conjectures even to offer, for it surpasses my comprehension. I give the facts precisely as they occurred, but am quite unable to

account for them. I cannot conceive, however, that the tumour here, though large and prominent, could have been of the kind demonstrated in the foregoing dissections, or such as the examination of ovarian cases usually presents; for that such disorganised masses could ever recover healthy structure, much less be capable of performing their natural functions, seems to me perfectly incredible. My only supposition is that which I have expressed in the early part of this paper, namely, that in the progress of ovarian tumours, an incipient stage exists, in which the tumour may acquire considerable size, without having undergone that utter disorganisation to which it ultimately tends. It may be that the early treatment of these cases, and the assiduous attention given to them throughout, prevented this stage passing into the more exasperated, and thus afforded opportunity to the natural energies of the constitution for successful exertion in reducing the morbid growth, and restoring healthy function. The records of the following cases are so diffuse, that I cannot condense them in the same way as the last, by taking, separately, the several admissions, whether as in or out-patient, and reporting what took place in each period.

Case.—Alice Kirkham, aged 18, became a patient of the Bath United Hospital, on the 11th of October, 1828; she stated that she had been ill for a week with abdominal pains, accompanied with some degree of fever. There was much fulness of the abdomen, so as to give rise to the suspicion of pregnancy, but it appeared that she menstruated regularly, though scantily, and that she had been

unwell, as it is termed, only the week before. Aperients and febrifuge remedies were employed, but without decisive relief, and on the 22nd, she was received into the house. At this time the abdomen was very large, and it continued so throughout her illness, at times increased so as greatly to exceed the size of ordinary pregnancy. The fulness, however, though general over the abdomen, had commenced in the iliac region, and ascended; all the evidences derived from the symptoms and the progress of the disease, marking it as decidedly ovarian. On her admission, the torpidity of the bowels claimed the chief attention, the most active purgatives being required. Contingent derangements soon appeared. First affections of the chest with hæmoptysis; afterwards determination of blood to the head, with epileptic seizures. These received their appropriate treatment, which was chiefly depletory, due attention being always given to the primary disease. Leeches and blisters were applied consecutively to the head, chest, and abdomen, repeatedly to the latter, the bowels being steadily purged. Acute symptoms being abated, a trial was given to galvanism, with a view to reduce the special tumours, but with little effect. So inactive were the bowels that the constant and assiduous use of active purgatives was needed. Pills of colocynth and calomel were first used; these were followed by the compound aloetic pills, taken once, twice, or three times in the day, assisted by the regular use of an aperient mixture, consisting of Epsom salt and rose infusion. Even these required the further aid of occasional cathartic draughts, rendered more active

by tincture of jalap. The purgative was frequently varied, with a view to lessen the quantity required. For weeks together she took a drachm of the Edinburgh compound powder of jalap twice a-day, together with the rose aperient mixture, and occasional draughts. Under this discipline her health improved, and her complaints abated, so as to admit of her being made an out-patient on the 27th of January, 1829, with the report of "much relieved." She continued as an out-patient until the 5th of May, when she was discharged "much better." During this interval the treatment was similar in kind to that which was pursued in the house, cathartic pills and draughts, leeches to the temples, blisters to the abdomen, pectoral remedies were all required, though somewhat less actively.

On the 9th of June, 1830, she made her next appearance, having been suffering for some weeks from loose bowels. On this occasion the diarrhœa was unusually obstinate, the ordinary use of rhubarb and calomel, and of the cordial mixture with opium, not sufficing, and resort being had to the compound electuary of catechu, and to sulphate of copper. By their united agency the looseness was stayed; but the abdominal fulness continuing, and the hypogastric tumours increasing, she was re-admitted an in-patient on the 1st of July. By this time a renewed use of aperients became necessary; and the tumour being chiefly prominent in the right hypogastrium, a full sized caustic issue was established over it. Inflammatory complaints of the chest arising, it became necessary to bleed from the arm repeatedly. Head, chest, stomach, liver, were all the

seat of inflammatory action, and she had a distinct attack of acute jaundice. From all these she recovered under active treatment, and on the 11th of August, she was discharged, much better, being made an out-patient. Irregular bowels required the continued use of medicines, which were varied, as costiveness or diarrhœa prevailed; and on the 22nd of September, it became necessary again to admit her as an in-patient. On this occasion, the treatment was similar in principle, but varied according to circumstances. Recurrence of epilepsy required blood to be taken from the head. Iodine was administered in doses, progressively increased, with a view to its acting on the morbid growth; and hip baths were found useful. She remained till the 12th of November, when she was discharged "much better in health, tumour undiminished." She continued as an out-patient till the 12th of January, when she was discharged "much better." On the 13th of July following, she once more applied, making no complaint of the abdominal diseases, but suffering from slight pectoral affections, which soon yielded; and on the 3rd of August she was discharged "well." Here the regular medical history, as derived from Hospital reports, ceases; but the progress has, nevertheless, been steadily watched and observed.

It appears, that subsequently to her discharge, as an in-patient, in August, 1830, there was gradual and progressive decline of the tumour, and about Christmas, 1831, she thought proper to marry. Becoming pregnant, she miscarried between the second and third month, an event which I considered as one of

congratulation rather than condolence, for not being aware of the extent to which the tumour had subsided, I believed it impossible that she could ever bring forth a living child. Again she became pregnant, and I confidently anticipated another miscarriage; but the event proved otherwise, for on the 12th of April, 1833, she was safely delivered of a healthy child, after an easy labour of nine hours. I visited her soon after her confinement, and found both her and her infant remarkably well. She suckled her child, and recovered as quickly as other women.

I have repeatedly seen her within the last two years, in full activity, and professing to be in perfect health. She is always large in the body; but on examination of the abdomen no trace of tumour was perceptible. From the length of time during which she continued a Hospital patient, she was seen and examined by dozens of medical men, none of whom ever entertained a doubt of the nature or character of her disease. How such a result could have obtained, in a case so apparently inveterate, I am unable to explain. I used to imagine that only one ovarium had been affected, the other remaining uninjured; but in the next case even this surmise could not be entertained, for in it both right and left tumours ascended considerably above the brim of the pelvis, and were conspicuous to sight alone, their prominence being rendered apparent by an indented line extending from the pubis to the umbilicus, as stated in the records. The tumours, too, were so distinct that, in the course of treatment, caustic issues were formed over both. This case is still more extraordinary than the preceding, the

symptoms having been more severe, the sufferings greater, the duration more protracted, and the fecundity such as to produce three living children at a birth. The records of this case extended from July, 1829, to August, 1834, during which period she was a patient of the Hospital twenty times,—nine as in and eleven as out-patient.

Case viii.—Mary Anne Scudamore, aged 21, became an out-patient of the Bath United Hospital, on the 25th of July, 1829, for acute pains of the abdomen, from which she had suffered many days. The attack commenced with diarrhœa, but at the time of her application the bowels were confined. Blood-letting, leeches, and blisters, were required for arresting inflammation; but the kidneys becoming involved, as evinced by pain of the back, and by a total suppression of urine, which continued for several days, it became necessary to admit her as an in-patient on the 15th of August. The subsequent treatment was chiefly depletory and febrifuge. Blood was taken from the arm, cupping glasses were applied over the kidneys, and both leeches and blisters repeatedly to the abdomen. Fomentations and tepid baths were conjoined; and small doses of calomel and opium were given so as to affect the mouth. Under this treatment she recovered, and on the 1st of September she was discharged "well."

The pains soon returned, however, and on the 9th she was re-admitted an in-patient, the special disease beginning to manifest itself by fulness in both iliac regions. On the 10th it is noted, in the record of symptoms, that these tumours were prominent, and separated by a depressed line extend-

ing from the umbilicus to the pubis. Leeches and blisters to the abdomen, and cupping to the back, were successively employed, with various other remedies. Occasional diarrhœa required its proper treatment; leeches to the temples were necessary for relieving the head; and affections of the chest were obviated by pectoral medicines. Again were the gums made tender by calomel and opium; and, finally, tartar emetic frictions were freely used to the abdomen. Progressively improving she was discharged, much better, on the 17th of November.

On the 26th of December she again appeared, with the usual abdominal ailments, accompanied with cough and dyspnœa. The abdomen was more full, the breathing much oppressed, and there was œdema of the lower limbs. All these affections were attended to, but on the 6th of January, 1830, it became necessary again to receive her into the house. On this occasion her sojourn in the Hospital was longer than usual, for she was not again discharged until the 4th of May. The period was marked by continued distress within the abdomen, increased by incidental affections, both of the head and heart. There were several severe epileptic seizures; and inordinate action of the heart was accompanied with acute pain of the left side. For all these depletion was necessary, and freely employed. Leeches were numerously and repeatedly applied to the abdomen, and sometimes around the anus; several large blisters were employed; calomel was used so as to affect the mouth; bleeding from the arm and leeches to the side were required for relieving the heart, in which refrigerant lotions and a belladonna plaister

afterwards assisted. On the 6th of April, the left hypogastric tumour had become so prominent, that a large caustic issue was established over it. From this time all her maladies subsided, and on the 4th of May she was discharged "much relieved," and made an out-patient.

From this period to the 8th of September, she continued an out-patient, obstinate diarrhœa being the chief incidental ailment, and this derangement seeming to supersede every other, incessant and active use of remedies was required for restraining it: cordial mixture with opium, and occasional doses of rhubarb and calomel, Dover's powder, compound electuary of catechu, sulphate of copper, and solid opium, were all successively needed. The diarrhœa not yielding, she was re-admitted an in-patient on the 8th of September. Soon after her admission the looseness abated, and when the bowels were sufficiently tranquil, a cautious trial was made of the internal use of iodine, beginning with small doses, and gradually increasing them. She continued this for about a fortnight, when pains of the head and side, with a hot skin, and inordinate action of the heart, required it to be laid aside. How far this disturbance, though such as iodine is capable of exciting, can here be attributed to the use of the remedy, it is impossible to say, similar affections having previously attended, when no iodine had been given. By blood-letting, and the usual treatment, the disturbance was allayed, and she steadily improved until the 9th of November, when she was discharged, the report being "general health much better, tumours remain."

From this time she continued an out-patient until the 22nd of January, 1831, requiring constant attention, however, and the usual treatment necessary for the ever varying contingent ailments. In the interval she was bled, cupped, blistered, and had various remedies for the relief of the head, chest, and bowels, according as specific derangement prevailed. These means not being sufficiently effectual she was, on the 22nd of January, re-admitted an in-patient. In four months the diligent and active use of remedies was needed for successive affections of the head, chest, and abdomen. Blood was repeatedly drawn from the arm, cupping glasses were applied to the neck, chest, and abdomen; and leeches repeatedly to the latter. Blisters were repeated several times, and iodine was again tried both internally and externally. The hypogastric tumours advancing, caustic issues were formed over both, about the middle of April. From this time the contingent maladies, which had previously abated, continued to decline, and she quitted the Hospital on the 20th of May, "much relieved."

For the next two months she chiefly suffered from diarrhœa, which it was difficult to restrain, the use of strychnia being required in aid of the ordinary remedies; and on the 23rd of July she re-entered the Hospital, where, under various sufferings, she remained for five months. These were all of the usual character; and to follow closely the various changes, could only prove wearisome without interest or instruction. The issue formed in the middle of April remained open until the end of July. Towards the close of August, however, both were re-

newed at her own earnest desire, conviction of the benefit derived overcoming her strong repugnance to the remedy. To her other ailments paralytic tendencies became superadded, there being numbness with loss of power in the lower limbs, and also in one arm. Under suitable treatment, however, this passed over, and improvement, general and progressive, ensued; the general health becoming re-established, and *the tumours, at length, sensibly subsiding*. On the 16th of December she left the Hospital, reported as "greatly relieved; tumours considerably reduced;" slight diarrhœa alone remaining.

She continued an out-patient until the 5th of May, 1832, still requiring the usual varied treatment for obviating the several recurring ailments. The bowels required continued attention; repeated bleedings were necessary; and affections of the chest called for appropriate treatment. On the 5th of May she was re-admitted an in-patient. From this to the 3rd of July, disease was unusually acute, especially in the chest and heart, the latter being greatly disturbed. Bleeding was still the remedy which gave most relief, and which could be most relied on. It was assisted by leeches, blisters, digitalis, and belladonna plaisters. By their united agency she was again relieved, so as to be discharged, "much better," on the 3rd of July.

For two months she continued an out-patient, but she still required a continuance of the same treatment, for in the interval she was bled, cupped in the chest, blistered over the heart, and had such internal medicines as the prevailing maladies required;

sufficient impression, however, not being made, she became again an in-patient, on the 5th of September. From this time to Christmas, active treatment was continually required, and it is repeatedly noted that from blood-letting alone did she experience sensible relief. In addition to repeated venæsections, leeches were freely applied to the chest and head, cupping and leeches to the back, blisters to the chest and abdomen. Pills of blue-pill and henbane were given, so as to affect the mouth; and both digitalis and belladonna were required to tranquillize the heart. The usual result followed, and she was discharged on the 23rd of December, "much relieved."

Medicines to relieve the chest and bowels were still necessary, and on the 1st of March, 1833, she, for the last time, became an in-patient. Disease still maintained its acute character, for from this to the 1st of May, she was bled eight times, the blood being uniformly buffed and cupped. The usual auxiliary treatment was of course conjoined. In consequence of some evidences of renewed disturbance in the left ovarium, a caustic issue was once more formed in the left hypogastrium. On the 10th of May, she was discharged much better, and, for the first time since the confirmed commencement of the ovarian disease, it was not deemed necessary to continue her an out-patient.

At the close of September, she re-appeared, requiring medical aid for chest complaints and loose bowels, but by this time the ovarian tumour had entirely subsided, and such was her reliance on the amendment experienced in this respect, that

encouraged by the example of her fellow-sufferer, Alice Kirkham, she, too, had become a married woman. The usual treatment, in full activity, was again required, and she left the Hospital, on the 18th of September, sufficiently well to go into the country, for the benefit of change of air.

The remaining history is soon told,—twice afterwards did she become an out-patient for her ordinary disturbances of health, namely, on the 1st of January, 1834, continuing until the 19th of April; and on the 7th of May, continuing to the 16th of August. By this time she was far advanced in pregnancy, and on the 8th of November, she was safely delivered of three female children, who were baptised by the names of Faith, Hope, and Charity. She suckled the whole for the usual period, and both mother and offspring continued afterwards in perfect health, as I had repeated opportunities of witnessing. She is, I understand, again pregnant, and suffers from some of her old complaints, but is now attended by the accoucheur who put her to bed, and has not latterly come under my observation.

A tabular view of the bleedings, &c., such as was annexed to case VI, is scarcely necessary; yet it may not be uninteresting to state, that in the course of this protracted disease, she was bled 45 times, to the extent of 384 ounces; was cupped 12 times, to 102 ounces; had 408 leeches applied; 16 blisters; and 6 caustic issues, four of these being applied over the left ovarium, and two over the right.

I have the records of several other cases, which I intended to report, but I hesitate to add further to the length of this paper. The cases are

are chiefly of young females, in whom the ovarian tumours were manifested by the ordinary evidences, and who were so far relieved by medical treatment, as to obtain quiescence of the local affection. General health being restored they ceased to attend, and were subsequently lost sight of, so that the final results are unknown, and the omission of the cases is, therefore, of less importance.

The same consideration restrains me from burdening the reader with any comments on the views and principles which guided the treatment of the foregoing cases, as I had at first intended. I shall merely remark, therefore, that in the free use of depletory treatment, I never lost sight of necessary caution, nor ever carried it to the extent of making injurious impression on the constitutional powers. In the case of Scudamore, no bleeding exceeded 12 ounces, by far the greater number were limited to 8 ounces, and sometimes they were so low as 6 ounces. From the caution thus observed, I had never occasion to regret the use of the lancet, nor to observe the slightest ill effect result from it.

Ere I conclude, I wish to notice an instance of enlargement of the ovaries, occurring at an unusually early period of life, not from any practical importance attaching to it, but as making an interesting addition to the general history of the disease.

Having noticed in the Museum of the Bath United Hospital, a preparation of a diseased ovary, which was said to have been taken from a very young subject, I made enquiry respecting it, and was favoured with the following narrative by Mr. Gore, the Lecturer on Anatomy, in the Hospital

School, whose intimate knowledge of anatomy, and accurate observation of animal structure, both healthy and diseased, peculiarly qualify him for this most important branch of the art, and attach that value to his account of necroscopic examinations, which perfect confidence in the truth and precision of such statements can alone give.

"Mary Loseton, who had not reached her tenth year at the time of her death, had been brought up from infancy in Walcot Poor-house. She was rather short of her age, but strong and healthy, with a thick neck. She had never been known to complain of anything more than occasional slight headache, and was usually employed, actively, in the work of the house.

One day in August, 1832, having appeared as well as usual, she ate a hearty supper, went to bed, and was found by her companions, in the morning, dead and still warm.

*Examination twenty-four hours after death.*—The limbs were robust and muscular, the neck short, the head large, and the integuments in all parts of the body lined with a thick layer of fat. In the head, the substance of the brain, as well as the membranes, was in a state of uniform and extreme congestion, without any extravasion of blood. There were two or three drachms of serum in the ventricles. The viscera of the thorax and abdomen were healthy. The ovary on each side was enlarged, that on the left to the greatest extent, viz. to the size of a large double walnut, flattened anteriorly and posteriorly. When cut into, the natural texture of each was found converted into about ten or twelve cysts, filled

with serum, varying in size from that of a pea to that of a cherry, and with smooth polished surfaces. The uterus, fallopian tubes, vagina, and hymen, were in their natural state, their infantile condition forming a remarkable contrast with the enlargement of the ovaries. The mammæ, on the contrary, were rounded, prominent, and, at least, as large as are usually found in girls from fourteen to sixteen."

ARTICLE XIII.

---

A CASE OF

# FUNGOID TUMOUR,

## SUCCEEDED BY MELANOSIS.

BY WILLIAM NORRIS, M.D.

*Stourbridge.*

---

February the 6th, 1817, Mr. ——, aged 57, of light brown hair and fair complexion, apparently in good health, applied to me in consequence of the inconvenience he felt from a tumour, situated nearly midway between the umbilicus and pubes. He told me there had always been a mole exactly in the same spot, and that, nine months ago, the skin around this congenital mark, assumed a brownish hue, and that from the part thus discoloured a tumour began to arise. On examination, I found the swelling was nearly of half the size of a hen's egg, of a deep brown colour, of a firm and fleshy feel, ulcerated on its surface, which discharged a fœtid ichorous fluid. The apex of the tumour was broader than its base. Some few months after the

appearance of this tumour, distinct nodules sprung up around it, some with slender necks, others with broader bases. This singular production was at length removed by the knife, and the wound went on favourably, and healed. In less than six weeks the tumour again began to grow from the cicatrized surface, and felt hard and semi-cartilaginous, and very soon minute tubercles, of a livid colour, surrounded the tumour; some of them separated from, and others growing into, each other. Of the latter sort there were, at least, forty in number, forming a mass of disease, extending nearly from the spine of one os ilium to the other, and bearing a resemblance to a large bunch of dark-coloured grapes, some of them flattened on the surface, and of various sizes. The prominent scirrhous-looking tumour occupied the centre; the tubercles already formed progressively increased, while fresh ones arose in the vicinity. The glands in the groin were swollen, and slightly tender to the touch.

This disorganization of parts was effected in two months, and continued to increase after that period. Yet the general health of the patient was not so much impaired as to prevent the regular use of exercise, nor did it interfere with the pursuits of business. Lancinating pains occasionally affected the diseased parts, and an early and continued symptom, was an excruciating pain near the right kidney. The secretion from the kidneys, at times, resembled porter, and deposited a lateritious sediment. At length the constitution began to suffer more severely. Nausea and loss of appetite gradually came on, accompanied by restlessness and

excessive depression of spirits. Bluish spots arose in the vicinity of a mole upon the sternum; others appeared, in succession, on the sides of the body, and on the back; and very soon the forehead and scalp were disfigured with the same morbid appearances. The whole body seemed to participate in this disease of structure, and to preclude all idea of relief from any surgical operation; and to leave no resource beyond palliative treatment. With reluctance, therefore, I felt compelled to leave him to his fate.

Gradually increasing dyspnœa came on, with a cough, daily augmenting in severity. The animal frame became perceptibly impaired, and the patient very soon unable to leave his bed-room. All that art could do, was, if possible, to alleviate his sufferings, which were excessive; but the relief that could be given was only partial. He was advised to take large and repeated doses of extract of hyoscyamus and poppy, which diminished the distressing cough and dyspnœa. He loathed animal food, as well as fermented and spirituous liquors, which only added to his feverish heat and restlessness. He frequently complained of heat, though the temperature of the skin was not higher than natural; and though his feet felt to my hand perfectly chilled, and his pulse scarcely perceptible, still he was incessantly requesting to be fanned. In this miserable state, the half-sitting and half-recumbent posture was the least irksome to him. Symptoms of general dropsy had, for some weeks, shown themselves; and these were soon followed by an increase of restlessness, cough, and difficulty of breathing, until death closed his miserable existence.

*Appearances after death.*—Mr. Kent, an intelligent surgeon, of this town, assisted me in the *post mortem* examination. On making an incision through the original tumour, I found the texture to be heterogeneous; it was of a reddish, and whitish brown tint throughout, not very unlike the internal structure of a nutmeg. The newly formed tumour, and the tubera around, though during life they wore a very different aspect, exhibited, after death, the same dark-coloured appearance. On puncturing a considerable number of the tubercles, a thick dark fluid was discharged from them.

Having described the external appearances of the disease, as they successively arose, on the surface of the abdomen, chest, sides, back, and head, I will now describe the morbid phenomena within. On making an incision from the upper extremity of the sternum, and exposing the ribs, a small tubercle was found near the angle of one of them. By a division of this morbid growth, it was evident that the disease was not confined to the periosteum, but had extended to the very substance of the bone. On continuing the incision towards the umbilicus, numerous distinct spots were found dispersed through the cellular substance. On opening the abdomen, I found numerous tubera of various sizes. To the eye of the morbid anatomist, it was interesting to behold the tumours scattered in the utmost profusion in every direction. Upon the transverse arch of the colon, the omentum, mesentery, stomach, and the large and small intestines, on the first of which, the spots were exceedingly numerous. In dissecting downwards to the vertebræ, I met with a mass of

diseased structure, which proved to be the mesenteric glands in a very morbid condition, from which, when divided, a considerable quantity of fluid escaped, in colour and consistence, something like tar. The pancreas was diseased in a similar manner, as well as the liver, which latter was so changed in colour, (being of a dark brown,) and so altered in its structure, as scarcely to be recognized. Its surface, especially, was studded with oval masses of the disease, as large as walnuts, and its substance throughout, was soft and pulpy. Slight tumours, of the same nature, were manifest in the organization of the kidneys. The spleen and bladder were the only organs exempt from the influence of disease in the abdominal cavity.

On observing the chest, a still more extraordinary appearance was observed. The lungs were, on both sides, thickly mottled, in large and smaller masses, throughout the greater part of their texture. The same mottled appearance was still more vividly displayed on the heart, and the specks were minute, more numerous, and distinct; the heart was almost literally encrusted with them, both externally and internally, and the tubera were from the size of a pin's head, to that of a pea. A few small specimens of the disease were deposited on the inner coat of the descending vena cava, but the arteries did not appear involved in the disease. There was about a quart of fluid in the abdomen; nearly a pint in each bag of the pleura; and, perhaps, two ounces in the pericardium. On dividing the scalp, many of the same diseased appearances were observed, both on the skull-cap, and on the fascia covering the tem-

poral muscles. The dura mater was also studded with them, though much less numerously than the mucous and serous membranes. The ventricles of the brain were nearly filled with fluid. The brain itself was apparently healthy; and with the exception of one speck on the leg, the extremities were free from the disease. It is remarkable that this gentleman's father, about forty years ago, had numerous small tumours between the shoulders, which were severally cauterized; soon after which, death took place. This tumour, I have remarked, originated in a mole, and it will be worth mentioning, that not only my patient and his children had many moles on various parts of their bodies, but also his father and brothers had many of them. The youngest son has one of these marks, exactly in the same place where the disease in his father first manifested itself. These facts incline me to believe that this disease is hereditary.

*Observations.*—This case appears to me interesting in many points of view, but especially as it displays this disease affecting the heart, and other organs. It also shews the punctiform state of the disease in various other structures, where this form of it is said never to exist. When I left the Medical Schools of London and Edingburgh, in the year 1815, I had examined many valuable museums, and had carefully inspected the indefatigable Mr. Langstaff's rare and unequalled collection of fungoid diseases, but I had never seen any specimen of disease resembling melanosis. In the year 1817, I published a short account of this case, in the *Edinburgh Medical and Surgical*

*Journal,* the disease was then quite new to me. I had never read, I had never heard of any such case; and, for want of a better name, I then called it fungoid. Probably, in the beginning, the tumour was of a fungoid nature, and in its progress, took on the melanotic disposition. Some time elapsed, after the removal of the original tumour, before the constitution sympathized with the local malady; is it not, therefore, fair to infer that internal depositions did not take place for a considerable time after the operation? This circumstance may throw some light on the pathology of melanosis, in proving that melanosis can spring from the cicatrix of a fungoid tumour, and thus showing the two diseases to be of a kindred genus.

Melanosis is like cancer in one respect, it seldom occurs before the middle period of life; Mr. Lawrence justly observes, "it runs a more rapid course, generally going through its stages in twelve or eighteen months." This is easily accounted for, because some of the vital organs often take on the same diseased action.

While melanosis is more speedily destructive than true scirrhus, it is, at the same time, less so than fungus hæmatodes, to which disease it appears much more nearly allied. Mr. Lawrence seems to think that fungus hæmatodes of the eye seldom or never occurs after childhood. "I have never yet" says Mr. Middlemore, "seen fungus hæmatodes of the eye occur in an individual more than five years old."

A youth, 16 years of age next May, applied to me about three months ago, with general enlargement of the left eye, which continued to increase to

double its natural size. I attended the patient six weeks; he was then removed home to his friends, near Wolverhampton; I predicted to some medical men that the case would terminate in fungus. After the lapse of two months I found out the patient, and went last week to see him. The eye is quite destroyed; and a fungus, the size of a moderate apple, projects through the lids, which, occasionally, discharges several ounces of blood. The fungus also extends upwards, and has separated half of the frontal and parietal bones of the same side, and is the size of a man's fist. The poor youth has not many weeks to live, and the full details of the case I hope to submit to the profession at some future time.

With regard to the treatment of melanosis, little is to be expected from me, and, as yet, nothing appears to have been recommended but palliative measures. Physic has uniformly failed, and surgery has too often been foiled by it.

It is too evident that when this disease attacks the vital organs, death must be the inevitable consequence; but it is an object worthy of investigation, how far we have the power to counteract the melanotic diathesis. Dr. Carswell observes, the disease occurs with much greater frequency in the grey, and white, than in the bay, brown, or black horse; "this is a circumstance" says the learned professor, "of some importance, and which may be regarded as favourable to the theory which ascribes the origin of melanosis to the accumulation of carbon in the blood, which is naturally employed to colour different parts of the body, particularly the hair."

It is evident that a superabundance of carbonaceous matter does exist, and in a disease like this, involved in so much obscurity, this circumstance may assist us in our diagnosis. Wherever there is reason to suspect the disease, from a tumour taking on a livid hue, or from hereditary predisposition, the secretion from the kidneys will be tinctured with a dark brown colour, resembling porter; and there will generally be found a dark discolouration of the blood, and the bile will oftentimes be changed to blackness. In such a case it may be advisable to recommend those plans which convey least carbon into the system, and probably, inspiring air with a superabundance of oxygen, may have a beneficial effect

Dr. Stevens recommends salt in the latter stages of typhus, the blood being black, and deprived of its saline particles, and salt renders it of its natural colour and properties; and salt may certainly be employed in this disease with safety, if not with advantage. These measures, together with carefully regulating the functions of the body, and the early removal of any external tumour, is, I fear, all that can be recommended in the present state of our knowledge. Laennec believes the ancients were acquainted with melanosis, and alludes to a case in Haller, where an inky fluid was found in the chest; but is it not probable that this liquiform melanosis is nothing more than a secretion, similar to that we observe in the disease called black vomit? and that true genuine melanosis, like fungus hæmatodes, is altogether a new disease?

Among the cases recorded of this dreadful disease, I am aware of no one, wherein its ravages have been so extensive as in this, for almost every structure in the body participated in the morbid action. A strong proof of the hereditary nature of the disease is also to be found in the fact, that since the father's decease, several of the offspring have been suffering with tumours of an alarming aspect.

PART V.

# STATISTICS AND REPORTS OF HOSPITALS AND INFIRMARIES.

## ARTICLE XIV.

## STATISTICAL OBSERVATIONS ON THE MEDICAL CHARITIES OF ENGLAND AND IRELAND.

BY J. K. WALKER, M.D.

*Huddersfield.*

At a period when the public attention has been so frequently directed to our medical charities, and so many projects suggested for the relief of the sick poor, it will not, I trust, be deemed irrelevant to dedicate some portion of the *Transactions* of the Association to the consideration of Hospital Statistics. Hitherto little has been done in this respect, and much as we have reason to be proud of the charitable munificence of our nation, and of the unparalleled amount of her voluntary contributions for the maintenance of Hospitals for the sick poor, yet it must ever be deplored, that with facilities greater than those of

any other country, we are inferior to some of our continental neighbours, in the precision and punctuality with which they conduct the statistical department of their various medical charities. With us there are few authentic documents published, to enable us to ascertain the exact number, or the entire expenditure of our medical charities; and such is the difficulty of obtaining, in all instances, the necessary information, that to a person, even, who is willing to encounter the labour of such an undertaking, it is almost impossible to procure the proper returns from the various Hospitals and Dispensaries, without which it is in vain to attempt, on a large scale, statistical calculations of importance. It is true that many of the foreign Hospitals are supported by, and are subject to the more immediate control of government. But surely the duty of drawing up correct annual returns is not so irksome, but that some professional individual will be found in each of our medical charities, who is both able and willing to transmit a full and correct account of the Institution to which he is attached, to some common depository. If each Institution were to send its annual report, with appropriate remarks, for insertion in the annual volume of the Association, materials would gradually accumulate from year to year, on which to form the basis of future statistical calculations. It is imperative upon every Institution, that has any regard for its reputation, to co-operate in this or some similar design. But what seems to render the adoption of some general plan, more peculiarly called for at the present time, is the state of the Charities of the sister kingdom, compared with

those in England. Of the provincial Infirmaries of Ireland, few in this country have any knowledge, for the Parliamentary Report is very defective, and of the numerous Irish Dispensaries, there never has been any report, which is the more extraordinary, as considerable sums are expended on them, nearly one half of which *is raised by county presentments.* But it has been reserved to a most talented individual* to draw public attention to the subject, and to supply what was long wanted, a statistical enquiry into the present state of Irish Medical Charities, and the manly and masterly manner in which he has denounced the various abuses in the Irish system of medical relief, is such as must force itself upon the attention of the legislature. The facts which he adduces *are supported by tabular evidence,* and the manifold glaring defects are now fairly submitted to the tribunal of the public. If they can be disproved, now is the opportunity to do so. If they cannot, then it is high time that interposition from the proper quarter should, as speedily as possible, lead to a mature investigation of the subject, and the substitution of a more efficient system of relief to the sick poor.

Though the number of medical charities in Ireland is great, and the sums annually expended on them are large, yet it appears that a vast portion of the sick poor of that country neither do, nor can obtain relief by their means. In drawing any com-

* Vide *a Statistical Inquiry into the present state of the Medical Charities of Ireland, &c. &c.*, by Denis Phelan, Surgeon to the Co. Tipperary Gaol, and to the House of Industry and Lunatic Asylum, Clonmel, &c. &c.

parison between the provision for the sick poor in England and Ireland, the difference of the two countries must be taken into the account. In both countries, indeed, a considerable number of sick poor apply for relief to the medical charities, yet the proportion of such is greater in the sister kingdom, where there are no poor-laws, and where so many of the poor eat the bread of idleness and mendicity. Their want of cleanliness in their persons, and in their habitations, also, predisposes them to disease of every kind.

In England we find *numerous parochial Workhouses** established in every quarter of the kingdom, which in many parts provide medical relief for, and receive as inmates, such of the sick poor as cannot obtain relief elsewhere. The number of poor so relieved is very considerable; whereas there are not more than ten or twelve Workhouses in all Ireland. These are some of the causes of the greater number of medical charities in that country, where they, in some degree, supply the place of poor-laws.

Mr. Phelan, upon whose accuracy the most implicit reliance may be placed, tells us that the total annual expenditure of the medical charities of Ireland, cannot be under £170,000, which gives support to 12 Dublin Hospitals, 37 county and city Infirmaries, between 60 and 70 Fever Hospitals, about 500 Dispensaries, and 10 district Lunatic Asylums. This sum is raised, partly by annual parliamentary grants, partly by county presentments,

* In the Report of the Commissioners on the poor laws, no account is given of Workhouses, and the number of cases annually relieved, which is a gross omission.

and *some portion by private contributions*. The total of Infirmary accommodation in all Ireland is only 1947 beds, which is in the proportion of one bed to every 4,000 of the population. The number of beds which the London and Provincial Infirmaries of England, altogether contain, is about 6,850, which is to the whole population (13,089,338) as 1 to 1911; from which it appears that the proportion of beds to population, is more than double in England, to what is the case in Ireland. On an average of three years' returns (1825, 1828, and 1832,) all the Irish county Infirmaries admitted 7,846 in-patients annually, and the others belonging to cities and towns, 2,104, *making a total, for all the provincial Infirmaries, of* 9,850 *in-patients in a year*, which is in the proportion of 1 to every 746 of the population; but if we add to this number, those admitted into the Dublin Hospitals, and who resided in the country, viz. 2,317, we shall have a total of 12,269, which is in the proportion of 1 to 608 persons. The total annual expenditure of all the Irish *provincial Infirmaries* is £27,990 17*s*. 8*d*. on an average of three years. From these and many other similar statements, which Mr. Phelan has so fully and so convincingly adduced, it is clearly shewn that the Infirmary accommodation of Ireland, is inadequate to the wants of the sick poor: that there are 230 towns in Ireland, varying in population from 17,000 to 1,000 each, in which there is no Infirmary, and the greater number of these are so remote from any county or other Infirmary, that the inhabitants derive little or no benefit from these Institutions; and that more than two-thirds of the population are at

such a distance from the Hospital, that the most serious surgical and medical cases either cannot bear removal, or if removed, cannot be admitted for want of room.

This deficiency, however, would not be so greatly felt, if the Dispensary system were more efficient than it now is, for though there are 500 Dispensaries in Ireland, yet there are many populous districts, of eight, ten, and twelve miles in extent, in which there are none; and with respect to those districts that enjoy this privilege, experience has shewn its inadequacy to answer the desired end, for as each Dispensary has usually only one medical officer, it is impossible for him to attend the sick poor of such large populations. Many of the Dispensaries are attended by non-resident medical men, who live at such inconvenient distances from their respective districts, that even with the most assiduous attention, it is often physically impossible for them to discharge their duties efficiently, or for the sick to obtain that prompt medical attendance so necessary in dangerous cases.*

Mr. Phelan has enriched his work by some most valuable tables, (the result of a long and toilsome calculation, to which few but himself would have submitted,) from which we have the means of examining the various sources of income and expenditure of the Infirmaries of Ireland, and of comparing them with those of England. Of these he gives a tabular view, abridged from the four tables of the Rev. Mr. Oxenden, to whom, also, the profession and every friend of humanity, owe a debt of grati-

* Vide Phelan, page 18.

tude, for the labour he has devoted to this subject. A careful comparison of the tabular return of both countries is necessary to a right appreciation of the subject, and with all the light afforded by these invaluable documents, there is still much to call for explanation and future enquiry. The statistical report of Mr. Oxenden, (to which I must refer the reader,) contains returns from 27 provincial Hospitals. There are, however, more than 20 Hospitals of which no such returns have hitherto been published. It is to be hoped that a sense of propriety will induce the medical officers of the whole of these charities to communicate to the public in some authentic form, not simply an annual report, such as has hitherto been thought sufficient, but *such statistical conclusions as may be drawn from the state of the charity*. It is not sufficient to give the total number of yearly admissions, the number cured, and the number dead. There may be no inaccuracy in drawing up these details, yet without the aid of further materials, no correct conclusion can be formed. We find, perhaps, in one report the sum total of in-patients much larger than in another, while the expenditure may be less. How are we to decide upon the merits of the respective statements? The report is defective, because it does not state the average daily number of patients in the house; nor do we know the average period of residence for each patient, without which it is not possible to form a proper estimate of the relative economy of the two Institutions. The greater the number of in-patients, the less is the usual cost per head of each patient. I am aware that this omission does not apply to the reports of all Infirmaries. There are honourable exceptions. The report of

the General Hospital near Nottingham is one. After the ordinary returns, there is usually a statistical account added. That of last year is as follows:—

| | 1822-3. | | 1833-4. |
|---|---|---|---|
| Average number of in-patients, taken from daily account of them, ..... | 76 | ... | 78 |
| ..... number of days each was in the House, | 43 | ... | 45 |
| ..... number of out-patients on the books, ... | 389 | ... | 510 |
| ..... number of days each out-patient was on the books, ..... | 91 | ... | 120 |
| ..... cost of each in-patient ..... | £3 7*s.* 8*d.* | | £3 13*s.* 2*d.* |
| ..... ditto ditto out-patient ..... | 4*s.* 8*d.* | | 3*s.* 9*d.* |

Nor is it in a financial point of view only that such information becomes requisite, but the relative degree of mortality cannot otherwise be computed. The time of residence varies in different Institutions, from one to more than three months, which must materially affect the proportion of deaths. It often happens that where the mortality is very low, the cases are badly selected, and many slight and unfit ones admitted. Such cases may soon, indeed, be fit for dismissal. But if instead of these, a number of bad accidents and dangerous cases find admission, (and such, indeed, are the more legitimate objects of an Infirmary,) there is a sufficient reason for the greater proportion of mortality; and yet it is no uncommon thing for a superficial examiner to consider the number of deaths as the criterion of excellence, whereas it will sometimes be found the reverse. But how are we to know the cause of this high rate of mortality, unless a more circumstantial account of the kind of cases admitted, is submitted to the public? In some Infirmaries the annual mortality is two, in others eight per cent. or upwards, but in all it requires that the average mortality for a given number of years be taken, to form the basis

of any statistical conclusions*. There are various other sources of error, some of which I have mentioned in a former paper on the Rules of Infirmaries, but making every allowance for such defects, we may, even now, arrive at some general statistical conclusions. The following table contains the names of the Hospitals, which are, as yet, established in twenty-one counties, the sum total of whose population is above eight millions, nearly the same as that of all Ireland.

| Names of Counties. | Population in 1831. | Name of Hospital. | In-Patients in one year. | Out-Patients in one year. | Proportion of In-Patients in one year to the entire Populat. | No. of Beds. | Expense of one Patient kept twelve months. |
|---|---|---|---|---|---|---|---|
| | | | | | | | £. s. d. |
| Cambridge | 143,955 | Cambridge | 620 | 1265 | 1 to 232 | 100 | 23 0 0 |
| Chester | 334,410 | Chester | 502 | 3556 | 1 — 666 | 100 | 28 0 0 |
| Derby | 237,170 | Derby | 590 | 594 | 1 — 402 | 80 | 30 10 0 |
| Durham | 253,827 | Durham | 120 | 710 | ... | ... | 25 0 0 |
| Essex | 317,237 | Essex and Colchester. | 274 | 215 | 1 - 1157 | 75 | 21 0 0 |
| Gloucester | 386,904 | Gloucester | 810 | 559 | 1 — 477 | 174 | 18 0 8 |
| Kent | 479,155 | Canterbury | 444 | 2084 | 1 - 1079 | 66 | 27 0 0 |
| Lancaster | 1,336,854 | Liverpool Northern Hospital | 401 | ... | 1 to 324 | ... | ... |
| | | Liverpool Infirmary | 1974 | 1000 | | 300 | ... |
| | | Manchester | 1749 | 19,334 | | 184 | ... |
| Leicester | 197,003 | Leicester | 898 | 1785 | 1 — 218 | 100 | 32 17 0 |
| Lincoln | 317,244 | Lincoln | 263 | 327 | 1 - 1206 | 56 | 23 5 0 |
| Norfolk | 390,054 | Norwich | 745 | 278 | 1 — 523 | 105 | 24 0 0 |
| Northampton | 179,276 | Northampton | 756 | 1871 | 1 — 238 | 100 | 22 0 9 |
| Northumberland | 222,912 | Newcastle-upon-Tyne | 1400 | 1206 | 1 — 149 | 120 | 20 0 0 |
| Nottingham | 225,320 | Nottingham | 531 | 1355 | 1 — 424 | 91 | 23 12 0 |
| Oxford | 151,726 | Oxford | 837 | 249 | 1 — 181 | 140 | 24 10 0 |
| Salop | 222,503 | Shrewsbury | 946 | 1969 | 1 — 235 | 120 | 20 0 4 |
| Southampton | 314,313 | Winchester | 782 | 622 | 1 — 401 | 96 | 27 18 0 |
| Suffolk | 296,304 | Bury | 326 | 717 | 1 — 908 | 50 | 30 0 0 |
| Warwick | 336,938 | Birmingham | 1556 | 2400 | 1 — 217 | 163 | 22 13 0 |
| Worcester | 211,356 | Worcester | 916 | 1117 | 1 — 230 | 100 | 18 15 0 |
| York. East Riding | 204,008 | York | 347 | 372 | ... | 72 | 25 0 0 |
| | | Hull | 354 | 820 | ... | ... | ... |
| North Rid. | 190,873 | ..... | ... | ... | ... | ... | ... |
| West Rid. | 976,415 | Leeds | 1341 | 2503 | 1 to 390 | 130 | 21 18 0 |
| | | Sheffield | 858 | 1573 | | 100 | 22 0 0 |
| | | Huddersfield | 187 | 3089 | | 26 | 22 0 0 |
| | | Halifax | 40 | 4054 | | 13 | ... |
| | | Bradford | 84 | 2946 | | 12 | ... |

* It is not unfrequently the case, that as soon as a patient or his friends find his case hopeless, he is removed from the Infirmary, from a wish that he should not breathe his last in an Hospital.

The number of in-patients, for one year, in all these Hospitals, (amounting to thirty,) is about 21,000, which is nearly in the proportion of 1 in-patient to every 400 of the population of the twenty-one counties. The number of beds in the same Hospitals is about 2670, that is, nearly one bed to every 3000 of the population of the same counties. The population of the West Riding of Yorkshire is, (by the last census,) 976,415. The amount of Infirmary accommodation is equal to about 280 beds, that is one bed to about every 3,400 inhabitants. The number of in-patients for one year amounts to about 2,500, giving a proportion of 1 in-patient to every 394 of the population. The number of out-patients, and those relieved at the Dispensaries of the West Riding, amount to about 17,000 annually.

The reader, in comparing the relative proportion of in and out-patients for the twenty-one counties inserted in the above table, will bear in mind, that in many of these examples, where the Infirmary provision seems most defective, and the number of out-patients small, independent Dispensaries have been established, where the system of visiting the home-patients has been adopted. It will also be found that, wherever the Dispensary plan of visiting the out-patients has been combined with the Hospital system, the utility of this combination has speedily evinced itself, by an increase in the number of out-patients. This was the case at Chester,*

* It appears, from the statistical enquiries of Dr. Cumming, that a great saving has been effected by the institution of the Dispensary branch of the charity. For forty years the average charge for me-

where no sooner was the Dispensary branch engrafted on the old system, than an immediate increase of out-patients followed. The number of the out-patients of the Liverpool Infirmary would appear trivial for so large a population, were it not known that there are two Dispensaries, which give relief annually to nearly 40,000 patients. The same may be said of other towns, whose distant suburbs would be too remote for domestic attendance by the medical officers of the Infirmary: such, for instance, as Leeds, Nottingham, Birmingham, &c. where it has been found necessary to establish Dispensaries, in addition to the Infirmary. Even in the case of Manchester, where the Dispensary branch is adopted at the Infirmary, (which gives relief to more than 20,000 patients) the wants of the sick poor, in the remoter districts, have made it necessary to superadd the establishment of distinct independent Dispensaries. It was suggested at one time that Branch Dispensaries should be instituted, to be connected with, and supported by, the Parent Institution. But, after due deliberation, the board of trustees of the Infirmary came to the conclusion, that the sphere of exertion of the Manchester In-

dicines, for in and out-patients inclusively, was £428, whereas for the last two years it hardly amounts to £354, thus proving that *a saving of £74 is annually effected by the new system.* In 1826, an assistant apothecary, with a salary of £30, was appointed; the house surgeon's salary then was £80: there are now two officers at the united cost of £120. The average number of in and out-patients, for forty years, was 2325; and the cost for medicine £428. The charge for 3561 in and out-patients, for the years 1832 and 1833, would amount, at the same rate, to £656; whereas the annual expense, including the salary and board of the new officer, is only £390.

firmary was already sufficiently extensive, and that the interests of the sick poor would be better served by the establishment of separate Dispensaries, totally disconnected from the Infirmary, and supported and managed by a separate body of governors. There are many counties that are yet without any Infirmary, but in most of these the Dispensary system has taken root. The poor-rates, too, provide for a large portion of the sick poor in the numerous Workhouses, of which, in many instances, the medical expenditure forms a considerable item; and until the statistics of these parochial receptacles are better known, any attempt to draw up a comparative estimate of the amount of medical relief to the sick poor, for each county, can be only partial.

On looking over such returns as I could procure from a considerable number of our county Infirmaries, it appears that the average number of days each patient remained in the house, varies from one to two, or even three months, so that without a knowledge of this circumstance, very erroneous conclusions may be formed of the comparative expenditure of each Institution. It may be regarded as a general rule, that the cost of each patient, per head, will vary in certain Infirmaries, inversely as the number of patients. Exclusive of medicines, the average daily cost of each patient is about 1*s.* 4*d.*, which includes the salaries and the maintenance of all the resident servants, nurses, and officers; who, in a hospital of 90 patients, generally amount to 15, or 1 to 6 patients. Taking the average annual cost per head of a single in-patient, of twenty Infirmaries,

it will be found little short of £4; for though in some of the larger ones, such as Manchester, it may not exceed £3 9*s*., and in the Nottingham £3 7*s*. 8*d*., yet in the smaller ones, such as Taunton, Bridgewater, Durham, Sunderland, and others, it is considerably greater in amount. In the medical return of the Sunderland Infirmary and House of Recovery, for the years 1833–34, it appears that the cost of an Infirmary patient was about £6 6*s*. 6*d*. exclusive of medicine, which an Infirmary patient receives as a Dispensary patient. The cost of a Dispensary patient was about 7*s*. 9*d*. The number of in-patients was only 29, and that of out-patients 1247. But in 1830 the cost of an in-patient was only £5, and in 1831 only £4 14*s*. This shews, also, the necessity of taking an average of several years, and not of one year only.

*The following Table, extracted from the British Medical Almanack, is intended to shew examples of such Hospitals as publish the average number of In-Patients under treatment.*

| HOSPITALS. | Out-Patients admitted in one year. | In-Patients treated in one year. | Average number of In-Patients. | Annual Deaths. | Medical Expenses. | Salaries, Food, Fire, &c. | IN-PATIENTS. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Mean time of residence in days. | Deaths in 100 Patients treated. | Deaths in 36.5 days out of 100 constantly living. | Days of sickness to one death. |
| Salop, 1830–31 | 1713 | 837 | 76 | 31 | £423 | £1780 | 33 | 3.7 | 4.1 | 895 |
| 1831–32 | 2037 | 1112 | 100 | 40 | 516 | 2215 | 33 | 3.6 | 4.0 | 913 |
| 1832–33 | 1708 | 924 | 97 | 31 | 582 | 2068 | 38 | 3.3 | 3.2 | 1142 |
| 1833–34 | 1969 | 946 | 94 | 35 | 434 | 1913 | 37 | 3.7 | 3.7 | 1002 |
| Mean | 1857 | 955 | 91.7 | 34.2 | 489 | 1994 | 34 | 3.7 | 3.6 | 972 |
| Winchester, 1833–34 | 622 | 798 | 83 | 31 | 397 | 2126 | 38 | 3.8 | 3.7 | 979 |
| York, 1833 | 372 | 347 | 40 | 23 | 262 | 1372 | 41 | 6.5 | 5 7 | 635 |
| Gloucester, 1833 | 400 | 648 | 171 | 39 | 597 | 2728 | 95 | 6.0 | 2.3 | 1601 |
| Nottingham, 1833 | 1355 | 530 | 78 | 41 | 481 | 1822 | 45 | 7.7 | 5.2 | 695 |
| Salisbury, 1833–34 | 1213 | 894 | 88 | 27 | 406 | 2155 | 36 | 3.1 | 3.1 | 1189 |
| Chester, 1833–34 | 3556 | 502 | 45 | 24 | 387 | 1612 | 33 | 4.8 | 5.3 | 681 |
| 1834–35 | 3310 | 476 | 46 | 17 | 341 | 1666 | 35 | 3.6 | 3.7 | 988 |
| Bedford, 1834–35 | 743 | 530 | 68 | 20 | 360 | 1475 | 47 | 3.8 | 2.9 | 1241 |
| Sheffield, 1834–35 | 1573 | 858 | 79 | 28 | 559 | 1776 | 34 | 3.3 | 3.5 | 1030 |
| Essex & Colchester, 2 years, 1833, 1834 | 215 | 274 | 46.5 | 11 | 182 | 922 | 62 | 4.0 | 2.4 | 1543 |

From the statistics of the Parisian Hospitals it appears that there are 13 Hospitals, containing 5,337 beds, and 11 Infirmaries for the old and infirm, in which 11,740 persons may be maintained. The *total of the beds* of these Hospitals and Infirmaries is 17,077. The number of days included in the treatment of the patients in the Hospitals was 1,616,403, for which the expense was 2,609,949 francs: taking the average, therefore, the expense of each day is 1 franc, 63 centimes, 51 milliemes. The *average period of sojourn of each patient being twenty-three days*, each one was maintained at an expense of 38*f.* 20*c.* The number of deaths was 5,886, or 1 in 11.05 In the Infirmaries the deaths were 1 in 6.08; and in them also the average expense of the day was 90*c.* 42*m.* The expenses of out-door attendance amounted to 2,288,177*f.*; dividing this sum by the 68,986 so relieved, the average for each will be 33*f.*; and dividing it by the number of householders *(menages)* which are 31,723, we have 72*f.* 23*c.* for each.

From official returns lodged at the bureau of the Prefect of the Seine, it appears that the receipts of the Parisian Hospitals, for the year 1833, amounted to 10,186,388*f.*, nearly £408,000; the whole of which appears to have been expended. But it is the case with the French, as with the American Hospitals, that many patients *pay for their maintenance and medical treatment.*

I must, however, confine my remarks to the Hospitals of our own country, and I shall now, therefore, advert to the state of the Irish Medical Charities; in doing which, I depend for all my information on

the authority to which I have so often alluded, the instructive pages of Mr. Phelan; and in the subjoined table of Irish County Infirmaries, the reader will peruse the fruits of his elaborate calculations, and will find a very wide field for observation. It must be borne in mind, that these Infirmaries are exclusive of the 64 Fever Hospitals, and 528 Dispensaries.

From this comprehensive tabular view of the county Infirmaries of Ireland, much interesting information may be gleaned, and many interesting facts are brought before the public eye, that call for investigation. It appears that the total number of in-patients admitted in all the county Infirmaries in Ireland, during the year 1829, amounted to 8126; that the total number of physicians and surgeons for all these Institutions did not exceed 34; that the proportion of medical officers to the persons admitted, was as 1 to 208; the proportion of beds to the whole population of the different counties, was as 1 to 7051; the proportion of admissions to the whole population, as 1 to 945; the average cost of provision to each in-patient, 23*s.* 4*d.*; the average cost of medicines and surgical instruments for each in-patient, 7*s.* 7*d.*; and *the total average cost of each in-patient,* 64*s.*; the average number of days each patient remained in the Hospital, $38\frac{1}{3}$; the total amount of income from private sources, (such as donations and subscriptions) for all the county Hospitals in Ireland, did not exceed £3125 1*s.* 7*d.*; while that from public funds, including treasury grants, county presentments, and petit sessions fines, amounted to £18,608 15*s.* 9*d.* This is the state of

*Table shewing the comparative Efficiency, Expenditure, &c. of the County Infirmaries of Ireland.*

| 1829. | Total number of Intern Patients admitted. | Out of 100 admissions number died. | Number of Physicians and Surgeons. | Proportion of Medical Officers to admissions. | Proportion of Beds to the whole population of the County. | Proportion of admissions to the whole population. | Average cost of Provisions for each Intern Patient. | Average cost of Medicines and Surgical Instruments for each Intern Patient. | Average cost of Fuel, Soap, and Candles, for each Intern Patient. | Average expense of Salaries for each Intern Patient. | Total average cost of each Intern Patient. | Average number of days each Patient remained in Hospital. | If there be a House Surgeon. | If Apothecary reside in the Hospital. | Number of Annual Subscribers. | Total amount of Income from Private Funds, i. e. Donations, Subscriptions, and Arrears. | Total amount of Income from Public Funds, i. e. Treasury Grants, County Presentments, and Petit Sessions Fines. | Number of Intern Patients for each bed per year. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | s. d. | s. d. | s. d. | s. d. | s. d. | | | | | £ s. d. | £ s. d. | |
| Meath Hospital and County Dublin Infirmary | 804 | 5.60 | 8 | 1 to 100½ | 1 to 3200 | 1 to 219 | 11 11½ | 5 2 | 2 10 | 7 0 | 32 6 | 25⅞ | No. | No. | 120 | 482 16 3 | 643 0 0 | 14.64 |
| Carlow | 119 | 6.70 | 1 | 1—119 | 1— 4555 | 1— 680 | 17 0 | 5 0 | 3 7 | 20 10 | 65 10 | 41 | No. | No. | ... | 47 5 0 | 389 0 0 | 6.67 |
| Kildare | 238 | 3.75 | 1 | 1—238 | 1— 3388 | 1— 455 | 16 6 | 4 2 | 4 9 | 22 3 | 55 0 | 33⅞ | No. | No. | 1 | 17 17 0 | 739 0 0 | 7.50 |
| Kilkenny | 422 | 6.62 | 1 | 1—422 | 1— 4807 | 1— 457 | 13 9½ | 0 6 | 1 6 | 11 3 | 30 9 | 33 | No. | No. | 4 | 14 14 0 | 525 0 0 | 10.50 |
| King's County | 378 | 2.89 | 1 | 1—378 | 1— 4114 | 1— 380 | 14 0 | 1 5 | 3 1 | 11 9 | 33 4 | 29¼ | No. | No. | 8 | 189 3 9 | 561 0 0 | 10.80 |
| Longford | 228 | 0.88 | 1 | 1—228 | 1— 6253 | 1— 492 | 17 11 | 6 0 | 5 6 | 14 11 | 62 7 | ... | No. | No. | 5 | 14 14 0 | 607 0 0 | 8.14 |
| Louth | 103 | 3.90 | 2 | 1— 51½ | 1— 6000 | 1—1049 | 9 4½ | 13 10 | 8 5 | 32 3 | 75 7 | 25½ | No. | No. | 3 | 69 7 0 | 545 0 0 | 5.72 |
| Meath | 253 | 7.86 | 1 | 1—253 | 1— 6500 | 1— 700 | 19 7½ | 11 0 | 4 2 | 17 8 | 61 0 | ... | No. | Yes. | 2 | 22 1 0 | 668 0 0 | 9.37 |
| Queen's County | 466 | 4.28 | 1 | 1—466 | 1— 3845 | 1— 313 | 15 2½ | 8 6 | 4 3 | 16 0 | 49 9 | 27½ | No. | No. | ... | 206 0 9 | 822 0 0 | 12.26 |
| Westmeath | 279 | 2.50 | 1 | 1—279 | 1— 5150 | 1— 491 | 15 9 | 3 8 | 3 5 | 14 6 | 37 7 | ... | No. | No. | 4 | 67 6 6 | 550 0 0 | 8.67 |
| Wexford | 245 | ... | 1 | 1—245 | 1— 5000 | 1— 747 | 36 0 | 20 6 | 5 8 | 14 6 | 83 11 | 47 | No. | No. | 7 | 125 3 0 | 739 0 0 | 6.78 |
| Wicklow, No. 1, at Wicklow. | 109 | 5.50 | 1 | 1—109 | 1—5550 | 1— 747 | 24 6 | 17 4 | 5 2 | 26 4 | 79 10 | 42⅔ | No. | No. | 5 | 119 19 0 | 376 0 0 | 8.08 |
| Do. No. 2, at Baltinglass. | 55 | 5.45 | 1 | 1— 55 | | | 23 2 | 9 5 | 6 4 | 39 4 | 84 4 | ... | No. | No. | 11 | 34 13 0 | 287 0 0 | 5.58 |
| Antrim | 273 | 3.29 | 1 | 1—273 | 1— 8082 | 1—1183 | 12 3 | 8 2 | 2 11 | 12 8 | 59 4 | ... | Yes. | No. | 2 | 125 14 9 | 480 0 0 | 6.80 |
| Armagh | 383 | 1.54 | 1 | 1—383 | 1— 6300 | 1— 673 | 14 0 | 4 4 | 5 4 | 12 4 | 56 11 | ... | No. | No. | 32 | 228 16 2 | 313 0 0 | 11.00 |
| Cavan | 293 | 2.75 | 1 | 1—293 | 1— 6700 | 1— 773 | 19 5 | 6 9 | 3 3 | 12 10 | 49 9 | 37¼ | No. | No. | 2 | 9 9 0 | 561 0 0 | 8.67 |
| Donegal | 181 | ... | 1 | 1—181 | 1— 4580 | 1—1812 | 52 2 | 5 11 | 11 1 | 19 8 | 99 5 | ... | No. | No. | 2 | 27 6 0 | 741 0 0 | 2.77 |
| Down | 130 | 6.08 | 1 | 1—130 | 1—15372 | 1—2711 | 39 6 | 3 4 | 5 7 | 24 1 | 92 6 | 43¾ | No. | ... | 11 | 413 5 3 | 578 0 0 | 5.46 |
| Fermanagh | 195 | 3.54 | 1 | 1—195 | 1— 3935 | 1— 766 | 21 5 | 6 2 | 13 4 | 18 9 | 79 11 | 54⅞ | Yes. | No. | ... | ... | 597 0 0 | 5.13 |
| Londonderry | 254 | 3.50 | 1 | 1—254 | 1— 2680 | 1— 880 | 60 7 | 5 3 | 8 10 | 20 8 | 106 10 | 46½ | No. | No. | 47 | 334 4 2 | 847 0 0 | 5.06 |
| Monaghan | 192 | ... | 1 | 1—192 | 1— 5425 | 1—1018 | 30 1½ | 5 2 | 5 4 | 18 6 | 66 5 | 54¾ | No. | No. | ... | ... | 289 0 0 | 5.33 |
| Tyrone | 204 | 5.00 | 1 | 1—204 | 1—12096 | 1—1479 | 39 1½ | 5 6 | 8 10 | 14 1 | 81 4 | 71¾ | No. | No. | 4 | 96 12 0 | 624 0 0 | 8.17 |
| Clare | 416 | 1.20 | 1 | 1—208 | 7— 6456 | 1— 620 | 13 0 | 4 8 | 1 6 | 9 6 | 31 7 | 31⅝ | No. | No. | 7 | 22 18 0 | 648 0 0 | 10.40 |
| Cork | 326 | ... | 1 | 1—316 | 1—14363 | 1—1246 | 10 3½ | 7 9 | 2 0 | 8 3 | 30 4 | 23¼ | No. | No. | 12 | 91 3 0 | 421 0 0 | 10.87 |
| Kerry | 273 | 1.10 | 1 | 1—273 | 1— 9565 | 1— 805 | 14 4 | 4 7 | 2 4 | 15 7 | 41 9 | 26⅝ | No. | No. | ... | ... | 596 0 0 | 12.00 |
| Limerick | 491 | 1.25 | 3 | 1— 98¼ | 1— 3828 | 1— 475 | 12 10½ | 5 5 | 3 10 | 13 7 | 40 9 | 26¾ | No. | Yes. | 23 | 131 4 0 | 645 0 0 | 8.00 |
| Tipperary | 272 | 4.00 | 1 | 1—272 | 1—18317 | 1—1407 | 14 8 | 18 4 | 3 5 | 16 1 | 53 3 | 30½ | No. | No. | ... | 51 7 0 | 694 0 0 | 12.36 |
| Galway | 196 | ... | 1 | 1—196 | 1—10424 | 1—2180 | 32 4 | 3 8 | 4 10 | 20 5 | 72 5 | .. | No. | Yes. | 1 | 3 3 0 | 654 0 0 | 4.80 |
| Leitrim | 284 | 1.39 | 1 | 1—284 | 1— 4415 | 1— 500 | 13 6 | 4 6 | 6 3 | 14 10 | 45 4 | 37 | No. | No. | 1 | 3 3 0 | 655 0 0 | 9.00 |
| Mayo | 320 | 1.87 | 1 | 1—320 | 1—13630 | 1—1116 | 17 0 | 4 9 | 4 8 | 18 2 | 60 11 | 30 | No. | No. | 5 | 41 0 0 | 564 0 0 | 12.00 |
| Roscommon | 335 | 2.09 | 1 | 1—335 | 1— 5454 | 1— 710 | 19 3 | 6 8 | 3 6 | 11 11 | 51 9 | 42 | No. | No. | 15 | 137 11 0 | 692 0 0 | 7.64 |
| Sligo | 213 | ... | 1 | 1—213 | 1— 4766 | 1— 844 | 21 2½ | 15 11 | 6 6 | 20 10 | 73 6 | 44 | No. | No. | ... | 67 5 0 | 545 0 0 | 6.00 |
| | 8126 | 3.75 mean. | 34 total. | 1—208 | 1— 7051 | 1— 945 | 23 4 mean. | 7 7 mean. | 5 3½ mean. | 18 1½ mean. | 64 0 mean. | 38⅓ mean. | | | | 3125 1 7 | 18608 15 9 | |

the county Infirmaries of the sister kingdom. The great disproportion found to exist in the amount of various items of expenditure in different Hospitals, (as shewn by the table,) will probably be a subject of future enquiry; and when such large sums are annually paid out of the public purse, it is incumbent upon the managers of these Institutions to see that no portion of these national grants is improperly expended. But Mr. Phelan has so satisfactorily drawn the attention of the public to this department of the subject, and the facts he has adduced, are so forcibly stated, that it will not be in the power of any party to prevent enquiry into this, and many other unexplained peculiarities attached to these Institutions. It would be injustice, however, not to award the proper mead of applause to some of these charities, in which the expenditure will be found not to exceed, and in some instances, *to fall very far short of the expenditure of English Hospitals,* as will be seen by a careful comparison of both.

Another singular feature in the history of Irish county Infirmaries, is the non-appointment of a second medical officer, or of a resident house surgeon. This peculiarity has not escaped the just censure of the talented author of this work, who points out its mischievous tendency. "Were each Infirmary surgeon, as now appointed, compelled to reside in the Infirmary, (as a few now do,) and restricted from practice, (as none are,) the injury to the sick poor would be much lessened, but still the custom of so limiting the number of medical officers would be a bad one, as it would *leave no opportu-*

*nity for consultations,* would take away the advantages of a certain and fair degree of competition, when two or more are employed, and deprive the medical profession and the public, of the advantages gained by the increased information of any additional physicians or surgeons. But when no competent medical officer permanently resides in these Hospitals, and when the surgeon is allowed to attend to as much private practice as he can obtain, (and he generally has a considerable share,) whether he reside in or out of the Infirmary, the injury becomes such, that it appears astonishing that the governors of these Institutions, or the legislature, have not taken any steps to remedy so palpable an evil."

In 31 Irish county Infirmaries there are only 34 medical officers, and 1061 beds, which is about in the proportion of one medical officer to 31 beds; and as the number of extern patients, also attended by the same officers, amounts to 84,454 for one year, the average number to each officer will be 2481.*

The number of beds in 27 English county Hospitals is 2917, and the number of medical officers is 165, that is, in the proportion of about 1 medical officer to 17 beds; the number of out-patients, in one year, of the same Hospitals, was 58,159, that is, about 1 medical officer to 352 out-patients during the year.†

In 27 English county Hospitals the number of individual subscribers, annually, was 146,31, and the amount of individual subscription was £35,512; while the total amount of income, from private sub-

* Vide Phelan. † Vide Oxenden's Table, 1825.

scriptions and donations, for 31 Irish county Hospitals, did not exceed £3125, that is, less than a tenth of the amount raised in England.

The defect of this system is pointed out with his usual discrimination, by Mr. Phelan, who informs us "that the public fund, which can annually be raised by county presentment, for each Institution, is £700 a year, viz. £600 for the use of the Hospital, and £100 for the surgeon; to this add £92 treasury grant, and there is, independent of any sessions fines, a sum sufficient to enable the governors to afford Infirmary aid to the sick poor within a moderate distance of the Hospital. Having a command of this fund, *the governors are not stimulated to exert themselves in soliciting donations and subscriptions*, and therefore the contributions of many, who would become life or annual governors if applied to, are never obtained. But were not these public funds available, or were they not so considerable as they are, the local governors would be under *the necessity of soliciting subscriptions.*" It is sufficiently proved that if the medical charities of Ireland are to be made, what they ought to be, available to the effectual relief of the sick poor of that country, *the gentry of each county must be called upon to contribute*, as is done in England, *their donations and subscriptions*, especially as they have not the burden of poor-rates to encounter.

It may perhaps not be unacceptable to some readers to know the opinion of so acute an observer as Mr. Phelan, on the subject of gratuitous attendance on the poor, a subject which has latterly been discussed in many of our periodical publications. "When a

daily and laborious duty is required, as in Hospitals combined with Dispensaries, it should always be borne in mind that it must be intrusted to the youngest and the least experienced, for the medical man of character and standing will not undertake it, or any considerable portion of it that would impose regular attendance on him. He does not require such adventitious aid; he has already reached a certain rank in his profession; and though such may not be the case in England, it is a well-known fact, that in this country, the physician or surgeon that is known to devote much of his time in visiting the poor, or that attends a Dispensary, I mean in towns of any considerable population, is sure to be the least employed, and to suffer, in a pecuniary sense, for his humanity. Gratuitious attendance, therefore, must always have this effect, that the least experienced only are employed, and that the services of those of more matured judgement, cannot be often made available for the poor. A plan that would insure the services of both would bid fair to be much the best."

The reader will judge for himself how far the recommendation of Mr. Phelan can be made generally available in this part of the United Kingdom. It can hardly be expected that a private practitioner, after he has attained a certain eminence in his profession, can dedicate so large a portion of his time to the duty of visiting the home-patients of a populous district, as in the earlier part of his professional career. But as far as regards the attendance at the Hospital, there is nothing irreconcilable in the union of the most extensive private practice with proper

periodical attention to in-patients, in any of our provincial Hospitals. There are few, I believe, that have given their best days to an Institution, who do not feel a deep-rooted attachment to its interests for the remainder of their lives. But if the duties of private practice are so great as to interfere with a proper discharge of Hospital duties, it is still competent to such a person to avail himself of a rule, (now adopted in many, and soon I trust to be adopted in all Infirmaries,) extending to him the privilege, after the lapse of a certain number of years of service, to rank as a physician or surgeon extraordinary, by which means the Institution secures the service, in cases of emergency, of an experienced counsellor, and holds out an honourable boon to those who follow him in his benevolent career. But the difficulty consists in securing attendance on the home-patients, a branch of medical charity by far the most useful to a populous district. The great defect in many of our English Hospitals, is the want of any provision for this purpose; and rather than that so desirable an object should be abandoned as impracticable, it would be preferable to appoint a medical officer in the larger Infirmaries, with a suitable stipend, whose duty it should be to give his entire time to attendance on the home-patients. As the case now stands, many patients find admission into our county Hospitals, who are not proper objects, and whose illness is not of that description most suitable for an Infirmary, and who, in fact, if they had the alternative, would prefer professional attendance at their own homes. It is a question whether the additional expense to

an Infirmary, incurred from this cause, would not almost cover the expense that might arise from the creation of a visiting stipendiary officer.

But to return to the subject of Irish Infirmaries and their defects, as explained by Mr. Phelan. There is one defect which is of so serious a nature, and savours so much of illiberality, that it calls for immediate attention in both countries, I mean, the monopoly enjoyed by the Dublin physicians and surgeons, in being alone eligible to hold medical situations in county Infirmaries. The Irish practitioners, who graduate in Great Britain, are far more numerous than those who obtain degrees in Dublin, in proportion, at the least, of three to one. Many of them are as well educated, and in as full and respectable practice, as the Dublin graduates, who, from this monopoly, assume to be of a higher class in the profession. Now this is so odious a system of exclusion, and so contrary to what is the case in England, where Dublin graduates are as eligible to our Medical Charities as English graduates, that I have little doubt that so unjust a preference will speedily be put an end to. In both Houses of Parliament the Irish Dispensaries have been denounced as a gross system of jobbing. But the fault lies chiefly in the imperfection of the existing laws; and however anxious a majority of the profession in Ireland may feel to remove all abuses, without the interposition of the Legislature no efforts on their part will be adequate to eradicate so many and such deep-rooted evils.

Among other enlightened suggestions entertained by Mr. Phelan, is the establishment of District

General Hospitals, in the following manner: one Hospital, capable of containing from 40 to 50 beds, for every district containing about 40,000 persons; and one Dispensary for every district containing a population of about 10,000. By this plan three or four such Dispensaries would be connected with each General Hospital; one consisting of the population of the town and neighbourhood, in which the Hospital is erected, for a circle of two or three miles, or more, according to the density of such population; the others to be established at such distances and places as may be deemed most expedient. With the exception of bad casualties, which should be always admissible, Mr. Phelan's plan provides, that no patient shall be taken into an Hospital, until the medical officer of the Dispensary district in which he resides, has given a certificate, that he has attended or carefully examined him, and is of opinion that he cannot be done sufficient justice to in his own residence, stating the causes which prevent recovery out of an Hospital. Every medical attendant belonging to the Hospital, or to any of the Dispensaries, to be fairly paid, and no gratuitous services accepted. These are the leading features of the plan; but for a more circumstantial development of the objects he has in view, reference must be had to the author's own able exposition.

It has been suggested that an extension of the same system to this country, under certain modifications, might be more beneficial, if not more economical, than the present system of medical relief to the sick poor. But if such a plan were calculated to arrest the tide of voluntary contributions, that

have hitherto been the support of our charities, and substitute in its place local assessments, I, for one, should regard such an extinction of private charity as an evil of the highest magnitude. If, indeed, a judicious combination of local assessment with voluntary subscriptions, or some modification of the Self-supporting Dispensary system, could be made acceptable to the working classes, then might we entertain a prospect of a more efficient system of relief, and one less degrading to the character of our peasantry. To this system, therefore, I will next direct my attention, so that from the statement of expenditure incurred *under each mode of relief*, the reader may draw his own comparisons.

The average cost per head for each patient will vary, in different years, in all medical charities, principally from a difference in the prevailing diseases of the year. In the Self-supporting Dispensaries, the labour of the medical officers, and the annual expense in medicine, may be comparatively small in one year, while in another a very large increase takes place; but, in the most favourable years, the remuneration can scarcely be considered adequate to indemnify the medical practitioner, for what he undergoes in the discharge of his duty.

As this system has already attracted, and is likely hereafter to attract, the attention of the profession, as well as the public at large, in consequence of the unsatisfactory mode of supplying medical aid to the poor, under the new poor law act, it may not be out of place to state, that since the year 1830, when a society for promoting the establishment of Self-supporting Medical Dispensaries was formed in

Warwickshire, sixteen others have been established in that and neighbouring counties, on a plan which has the merit of simplicity, and, according to the latest reports, has proved eminently successful. This has been particularly the case at Coventry: according to the report of 1834, a fund subscribed by its members in one year (amounting to not more than £400 12*s.*) provided them medical aid in 1666 cases of sickness, of which 515 were visited at their own houses, and 52 were midwifery cases. Exclusive of some *small* contributions by wealthy individuals, these Dispensaries derive their means of support from the poor families, for whose use they are established. Each subscriber can entitle himself or herself to the benefits of medical advice and assistance, when needed, by a penny subscription paid weekly, or fourpence per month. It seems that many both severe and tedious cases have been relieved during the year; and of the number of those who have been recipients of its aid, many have been protected from the *necessity of going into the Workhouse, under the pressure of temporary sickness,* at the certain cost of subjecting themselves, during the remainder of their lives, *to the badge of pauperism.* No real wellwisher to his country, but must desire to foster this salutary feeling, and to rekindle, if possible, that now almost extinct love of independence, once the pride of our peasantry.

Now, it is a subject of grave importanee, and, at this particular period, most worthy of investigation, how far it is practicable, by the establishment of District Dispensaries in England, in some parts of the country at least, to impart more prompt and

more efficient medical aid to the sick poor; and to substitute a system less degrading to the profession, as well as to the poor, than the one now introduced. There is no scheme hitherto devised, that is not amenable to some objection. It must always happen, under the most judicious system, where the district is large, and the population dispersed, that the same prompt supply of medical aid cannot be at all times procured, as in towns and populous villages. If the most affluent nobleman in the land, whose mansion is situate in a remote part of a county, cannot always summon immediate professional aid when he requires it, it cannot be expected that his surrounding tenantry can be better off. My objection to the new system of medical economy for the poor, is, that it is degrading to the profession, and insufficient for the relief it professes to impart. Nor does it provide that immediate aid which a District Dispensary might do, where no delay is incurred by any intermediate application. In cases of emergency this is of the last importance. In all cases, where the disease is attended with acute symptoms, the importance of early medical aid will be obvious. Who is to be the judge of this, not the relieving officer, but the official medical superintendant? It may chance to be a proper object, and the case such as calls for immediate aid, or it may be the reverse; yet, in either case, the medical officer is equally entitled to remuneration for his trouble; and the board of Guardians would not do their duty, if they did not award some consideration for such cases. But it is impossible to guard against imposition, even under any system, and it is im-

portant to devise some plan that may best meet the wants of the sick poor, and take away the motives for deception. This object seems easiest of attainment where the poor themselves are contributors, in how small a degree soever it may be, to their own relief.

If associations could be formed among the working classes, for the purpose of raising a sum for the special purpose of medical relief under sickness, to which the more opulent class might be induced to become honorary subscribers, probably this would, if generally adopted, under judicious regulations, prove a more effectual security against imposition, than any legislative enactment. Whether it is called a Self-supporting Dispensary, or a Medical Provident Institution, the object is the same; but it is extremely desirable that there should be a class of honorary as well as benefiting members, for without this, in adverse times, when the wages of the working classes are low, the income might not be equal to the expenditure, especially as it is in seasons of adversity among the poor, that cases of sickness are usually the most numerous.

Above a year ago a Medical Provident Society was formed at Barham Downs, for the benefit of the industrious classes, which consists of honorary and benefiting members. The annual payment of not less than 5*s*. constitutes an honorary member: these form the board of management, but derive no personal advantage. Benefiting members are persons of a lower grade, paying, annually, according to a fixed scale. No master tradesman or shopkeeper, or who is owner of real or personal property

of the annual value of £10, or who is occupier of more than two acres of land, or whose average wages, with those of his wife, may be computed at more than 21s. per week, can become a benefiting member. No person is entitled to medical attendance, unless his monthly payment has been duly paid. The benefiting members may apply for advice or attendance to any qualified medical person they prefer, if he live within seven miles. When a patient may receive the same benefit by attending at the surgeon's house, he is expected to do so, to save the expense of the visit of the latter. There is a regular scale of charges for medical and surgical attendance, &c. sufficient to indemnify the medical practitioner for time and trouble. This association, at the end of the first quarter, included a district of thirty rural parishes, the number of benefiting members being 2285. I have not succeeded in obtaining the returns of last year, but there is every reason to expect that the plan will work well, and at the same time fulfil the purposes of justice due to the medical attendants, and be fully adequate to meet the wants of those for whose benefit it was instituted.

The cost per head of each patient of the Coventry Self-supporting Dispensary was, in 1834, about 5s. Now this is not more than the expense of out-patients of Dispensaries on the old plan, and proves that the system works well, as far as economy goes; and such, indeed, is the case in other instances, for the poor themselves, by whom it is supported, have an interest in abstaining from all extravagance or useless expenditure.

In some respects, a Self-supporting Dispensary

would resemble, in its operation, the larger parochial medical establishments in different parts of the country, except that in the latter, the surgeon is resident, and *his sole duty* is to attend such poor persons as present him with recommendations, signed by the parish officer; whereas in the former, if he were a benefiting member, the applicant would have a claim to professional attendance at all times, and if not a benefiting member, still he might be referred, for a recommendation, to an honorary subscriber. The sick poor of St. Mary's parish, in Nottingham, like most other parishes, were formerly attended by a surgeon, residing in the town, who was annually appointed by the overseers, and who received a stipulated salary for his services. So great, however, was the number of poor requiring medical aid from the parish, that it was evident that no surgeon, who had other practice to attend to, could do justice to them, and the present medical establishment was instituted, which appears to have answered the end of its benevolent projectors. The patients consist of three classes. First, in-patients, who are inmates of the parish Workhouse, and its *attached Hospital;* second, out-patients, who attend daily at the Dispensary; third, home-patients, who are visited at their own houses, in the town, by the resident surgeon. The resident surgeon is a stipendiary officer; and there is, also, a consulting physician and surgeon, who *gratuitously visit* such urgent cases, as, from the report of the resident surgeon, they deem necessary. A Dispensary assistant has also been found necessasy. From two to three thousand patients are admitted annually. The an-

nual expense from the commencement, in 1813, to 1830, a period of seventeen years, for surgeon's salary, medicines, their preparation, instruments, and, in short, for every medical expense of the parish, consisting of 40,000 inhabitants has averaged no more than £350 19*s.* 7*d.*, and even that small sum was reduced, in 1830, still lower, by about £80 a year, which the overseers recovered from other parishes, for medicines supplied to such out-poor, residing in St. Mary's parish, as had been placed under suspended orders of removal.*

The following statement exhibits several particulars respecting the expenses of this establishment. The averages of the total annual expense, of the whole expense of each patient, and of the proportion of that cost, for the medicines alone, for a period of nine years, from 1813 to 1822, stood thus:—Total, £331 14*s.* 4*d.*; each patient, 3*s.* 5*d.*; drugs alone, 1*s.* 9*d.* From 1822 to 1827, a period of five years, the same particulars were as follows:—Total, £341 12*s.* 8*d.*; each patient, 3*s.* 6*d.*; drugs alone, 1*s.* 4*d.* From 1827 to 1830 they have been—total, £427 13*s.* 5*d.*; each patient, 3*s.* 6*d.*; drugs alone, 1*s.* 6*d.*

From this succinct view, it appears that the economy of this Institution, as compared with medical charities in general, is very superior, the whole expense, per patient, being considerably below what the medicines alone average in most charities. But,

* I have extracted these facts from a pamphlet, published in 1831, by Thomas Jewett, formerly surgeon to St. Mary's Medical Establishment. The reports of the succeeding years, which I have just received, are nearly the same as the above.

as Mr. Jewett observes, a great proportion of the patients, especially vagrants, are attended only once, which reduces the average considerably. Many cases were so slight as to cost little, not averaging more than three pence each; but this was at a time when the duty devolved upon one medical officer, whose time was so fully occupied, as to render the simplest treatment necessary, and the use of any except the most indispensable remedies, almost impracticable. And yet, with all this economy, this Institution was popular among the poor; and many who required no other kind of parochial aid, anxiously resorted to its assistance.

I have endeavoured to obtain the reports of the annual medical expenditure of other Workhouses, but I have met with so many difficulties, and the returns I have procured, are so destitute of any useful information, that it becomes impossible for me, on the present occasion, to form any conjecture of the number and description of objects receiving medical relief in our parochial Workhouses. And I regret that, in this respect, I have not to avail myself of the labours of the Poor Law Commissioners, whose report is very defective in materials relative to the *medical statistics of Workhouses.* And this is the more to be lamented, as much valuable information, and many useful suggestions, might have been gleaned from the publication of authentic documents, shewing the result of the present system; and especially at the present crisis, when the Legislature stands in need of every aid, to enable them to correct any anomalies or objections in the existing laws on the subject of the medical relief of the sick poor.

It has often been urged that the multiplication of charities has made them too cheap, too familiar to the eye and the ear, too easy of access, and hence often productive of the indigence they were intended to relieve. If, therefore, any system can be devised that would offer a bounty to the working classes, to anticipate the wants of poverty, or that would make some previous contribution the condition of participating in the benefits of charity, a very material step would be taken towards arresting the increase of pauperism. That this is the fit season for such an attempt, is shewn by the unexampled prosperity of our Savings' Banks, in which the deposits of the last year have exceeded in amount those of all former years. Now that work is plentiful, wages good, and provisions cheap, and, above all, when the working classes are more alive to the duty of providing against a day of adversity, is the proper season to take a full and dispassionate review of all our Charitable Institutions, and to engraft upon them such improvements as the experience of the past, and the example of other countries, may point out to us as calculated to add to their efficiency. In the prosecution of this object, so interesting to the patriot and the philanthropist, the jarring contentions of party spirit cannot intrude. The true Christian, of whatever rank and denomination, will feel it not less a privilege than a duty, to cooperate in ameliorating the condition of the poor, and in advancing the utility of all Institutions dedicated to charity and the relief of human misery.

# ARTICLE XV.

## A REPORT OF THE OUT-CASES,

ATTENDED

BY GEORGE PARSONS, ESQ., F.S.S.

## AT THE BIRMINGHAM INFIRMARY,

From January 1, to December 31, 1835.

| | Qr. ending March 31. | | Qr. ending June 30. | | Qr. ending Sep. 30. | | Qr. ending Dec. 31. | | TOTAL. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. |
| Abortus | 2 | ... | 4 | ... | 5 | ... | 5 | ... | 16 | ... |
| Abscessus | 22 | ... | 20 | ... | 17 | ... | 36 | ... | 95 | ... |
| Abscessus psoatic | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... |
| Amenorrhœa | 9 | ... | 4 | ... | 8 | ... | 10 | ... | 31 | ... |
| Anasarca | 3 | ... | 4 | 1 | 3 | 1 | 5 | 1 | 15 | 3 |
| Aphthæ | 2 | ... | 3 | ... | 2 | ... | 8 | ... | 15 | ... |
| Apoplexia | ... | ... | 2 | 1 | 1 | ... | 1 | ... | 4 | 1 |
| Ascites | 1 | 1 | ... | ... | 1 | 1 | 1 | ... | 3 | 2 |
| Asthenia | 18 | ... | 31 | ... | 13 | ... | 19 | ... | 81 | ... |
| Bronchitis, acut | 4 | ... | 2 | 1 | 1 | ... | 2 | ... | 9 | 1 |
| Bronchitis, chronic | 75 | 3 | 42 | 4 | 37 | 1 | 74 | 3 | 228 | 11 |
| Catarrhus | 87 | ... | 52 | ... | 36 | ... | 42 | ... | 217 | ... |
| Cephalœa | 24 | ... | 23 | ... | 13 | ... | 15 | ... | 75 | ... |
| Cholera biliosa | ... | ... | ... | ... | 21 | 1 | 4 | ... | 25 | 1 |
| Chorea St. Viti | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... |
| Colica pictonum | ... | ... | ... | ... | 1 | ... | 2 | ... | 3 | ... |
| Constipatio | 8 | ... | 13 | ... | 18 | 1 | 20 | ... | 59 | 1 |
| Convulsiones (Inf.) | 4 | 1 | 2 | ... | 4 | 2 | 10 | 3 | 20 | 6 |
| Cutaneous diseases. | 43 | ... | 39 | ... | 30 | .. | 25 | ... | 137 | ... |
| Cynanche tonsil | 15 | 1 | 13 | ... | 15 | ... | 7 | ... | 50 | 1 |
| Delirium tremens | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Dentitio | 1 | ... | 4 | 1 | 6 | ... | 17 | ... | 28 | 1 |
| Diarrhœa | 15 | 1 | 19 | 2 | 118 | 3 | 52 | 1 | 204 | 7 |
| Dyspepsia | 36 | ... | 57 | ... | 64 | ... | 74 | ... | 231 | ... |
| Dysuria | 5 | ... | 2 | ... | ... | ... | 4 | ... | 11 | ... |
| Epilepsia | 2 | ... | 2 | ... | 11 | 2 | 3 | ... | 18 | 2 |
| Erysipelas | 1 | ... | 2 | ... | ... | ... | 4 | ... | 7 | ... |
| Erythema marginat | ... | ... | ... | ... | 1 | 1 | ... | ... | 1 | 1 |
| Erythema nodos | ... | ... | 1 | ... | 3 | ... | 3 | ... | 7 | ... |
| Febris intermittens | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Febris remit. inft | 2 | ... | 3 | ... | 1 | ... | 3 | 1 | 9 | 1 |
| Fistula in perineo | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Fracturæ | 6 | 1 | 5 | ... | 5 | ... | 4 | ... | 20 | 1 |
| Fungus medull | 1 | 1 | ... | ... | ... | ... | 1 | 1 | 2 | 2 |
| Glottitis acut | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Gonorrhœa | 27 | ... | 28 | ... | 24 | ... | 40 | ... | 119 | ... |
| Hæmaturia | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... |
| Hæmoptoë | 3 | ... | 3 | ... | 1 | ... | 2 | ... | 9 | ... |
| Hæmorrhœa petech. | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 |

| | Qr. ending March 31. | | Qr. ending June 30. | | Qr. ending Sep. 30. | | Qr. ending Dec. 31. | | TOTAL. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. |
| Hæmorrhois ..... | 7 | ... | 10 | ... | 5 | ... | 6 | ... | 28 | ... |
| Hernia ..... | 3 | ... | ... | ... | 5 | ... | 5 | 1 | 13 | 1 |
| Hernia humoralis... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 3 | ... |
| Herpes Zoster ..... | 1 | ... | 2 | ... | ... | ... | ... | ... | 3 | ... |
| Hydrocephalus, ac. | ... | ... | ... | ... | 2 | 2 | 2 | 1 | 4 | 3 |
| Hysteria ..... | 1 | ... | 4 | ... | 3 | ... | 1 | ... | 9 | ... |
| Icterus ..... | 3 | ... | 3 | 1 | 2 | ... | 2 | ... | 10 | 1 |
| Incontinent. urinæ | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 | 1 |
| Laryngitis, acut. ... | 1 | 1 | 1 | 1 | 1 | 1 | ... | ... | 3 | 3 |
| Leucorrhœa ..... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... |
| Lumbago ..... | 3 | ... | 4 | ... | 8 | ... | 9 | ... | 24 | ... |
| Mania ..... | ... | ... | 4 | ... | 3 | 1 | 2 | ... | 9 | 1 |
| Marasmus ..... | 8 | 4 | 6 | 3 | 10 | 1 | 7 | 3 | 31 | 11 |
| Menorrhœa ..... | 7 | ... | 3 | ... | 4 | ... | 3 | ... | 17 | ... |
| Necrosis ..... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Neuralgia ..... | 1 | ... | ... | ... | 1 | ... | 3 | ... | 5 | ... |
| Ophthalmia ..... | 4 | ... | 1 | ... | 5 | ... | 5 | ... | 15 | . |
| Paralysis ..... | 2 | ... | 2 | ... | ... | ... | 3 | ... | 7 | ... |
| Pericarditis, acut... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... |
| Peritonitis, acut.... | ... | ... | 1 | 1 | 1 | 1 | ... | ... | 2 | 2 |
| Pertussis ..... | 1 | ... | ... | ... | 7 | 1 | 30 | 3 | 38 | 4 |
| Phlebitis ..... | ... | ... | ... | .. | 1 | ... | ... | ... | 1 | ... |
| Phlogosis ..... | 20 | ... | 27 | ... | 26 | ... | 15 | ... | 88 | ... |
| Phthisis pulmon.... | 11 | 9 | 8 | 4 | 8 | 6 | 11 | 4 | 38 | 23 |
| Pleuralgia ..... | 7 | ... | 14 | ... | 2 | ... | 7 | ... | 30 | ... |
| Pleuritis ..... | 4 | ... | 3 | ... | 5 | 1 | 5 | ... | 17 | 1 |
| Pneumonia ..... | 4 | 1 | 1 | ... | 4 | 1 | 3 | 2 | 12 | 4 |
| Podagra ..... | 1 | ... | 1 | ... | ... | ... | ... | ... | 2 | ... |
| Polypus nasi ..... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | ... |
| Prolapsus uteri ... | 3 | ... | 3 | ... | 2 | ... | 1 | ... | 9 | ... |
| Retentio urinæ ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... |
| Rheumatismus, ac.. | 7 | ... | 10 | ... | 10 | ... | 11 | ... | 38 | ... |
| Rheumatismus, chr. | 9 | ... | 9 | ... | 8 | ... | 9 | ... | 35 | ... |
| Rubeola ..... | ... | ... | 1 | ... | 1 | ... | ... | ... | 2 | ... |
| Scarlatina ..... | 24 | 9 | 50 | 3 | 41 | 4 | 27 | 7 | 142 | 23 |
| Scirrhus ..... | ... | ... | 1 | ... | 1 | 1 | 1 | 1 | 3 | 2 |
| Sciatica ..... | 4 | ... | ... | ... | 1 | ... | 2 | ... | 7 | ... |
| Scrofula ..... | 2 | ... | 5 | ... | 1 | .. | 6 | ... | 14 | ... |
| Strictura recti ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 2 | ... |
| Strictura urethræ.. | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Synochus ..... | 42 | 4 | 56 | 4 | 51 | 3 | 47 | 2 | 196 | 13 |
| Syphilis ..... | 12 | ... | 15 | ... | 9 | ... | 20 | ... | 56 | ... |
| Ulcera ..... | 15 | ... | 18 | ... | 29 | ... | 19 | ... | 81 | ... |
| Urticaria ..... | 1 | ... | 1 | ... | 1 | ... | ... | ... | 3 | ... |
| Variola ..... | ... | ... | ... | ... | 1 | ... | 13 | 3 | 14 | 3 |
| Variola post vac.... | ... | ... | ... | ... | 2 | ... | ... | ... | 2 | ... |
| Vermes intest. ... | 13 | ... | 10 | ... | 14 | .. | 6 | ... | 43 | ... |
| Various cases of Wounds, Burn, Sprain, &c..... | 38 | ... | 38 | 1 | 37 | ... | 40 | ... | 153 | 1 |
| Total ..... | 682 | 39 | 697 | 28 | 780 | 36 | 816 | 38 | 2975 | 141 |

The following tables shew how many of these 2,975 cases came under my care in each of the twelve months, and the number of them that terminated fatally; they also exhibit what proportion of them occurred before the age of ten years, and what afterwards, and likewise the different numbers in the two sexes.

| | MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|---|
| | Under 10 years. | | Above that age. | | Under 10 years. | | Above that age. | |
| | CASES. | DIED. | CASES. | DIED. | CASES. | DIED. | CASES. | DIED. |
| January | 27 | 3 | 76 | 3 | 29 | 1 | 100 | 2 |
| February | 22 | 5 | 57 | 1 | 23 | 1 | 105 | 4 |
| March | 30 | 5 | 56 | 7 | 27 | 4 | 130 | 3 |
| April | 21 | 0 | 73 | 3 | 23 | 0 | 111 | 1 |
| May | 23 | 2 | 64 | 3 | 31 | 4 | 115 | 4 |
| June | 31 | 2 | 67 | 3 | 32 | 2 | 106 | 4 |
| July | 20 | 2 | 61 | 1 | 36 | 3 | 117 | 2 |
| August | 32 | 2 | 68 | 3 | 37 | 2 | 123 | 3 |
| September | 36 | 3 | 69 | 6 | 56 | 5 | 125 | 4 |
| October | 31 | 3 | 81 | 4 | 33 | 4 | 123 | 3 |
| November | 37 | 5 | 63 | 2 | 41 | 5 | 141 | 4 |
| December | 40 | 3 | 69 | 1 | 34 | 3 | 123 | 1 |
| Total | *350 | 35 | 804 | 37 | †402 | 34 | 1419 | 35 |

| | TOTAL MALES. | | TOTAL FEMALES. | | OF BOTH SEXES. | |
|---|---|---|---|---|---|---|
| | CASES. | DIED. | CASES. | DIED. | CASES. | DIED. |
| January | 103 | 6 | 129 | 3 | 232 | 9 |
| February | 79 | 6 | 128 | 5 | 207 | 11 |
| March | 86 | 12 | 157 | 7 | 243 | 19 |
| April | 94 | 3 | 134 | 1 | 228 | 4 |
| May | 87 | 5 | 146 | 8 | 233 | 13 |
| June | 98 | 5 | 138 | 6 | 236 | 11 |
| July | 81 | 3 | 153 | 5 | 238 | 8 |
| August | 100 | 5 | 160 | 5 | 260 | 10 |
| September | 105 | 9 | 181 | 9 | 286 | 18 |
| October | 112 | 7 | 156 | 7 | 268 | 14 |
| November | 100 | 7 | 182 | 9 | 282 | 16 |
| December | 109 | 4 | 157 | 4 | 266 | 8 |
| Total | 1154 | 72 | 1821 | 69 | 2975 | 141 |

In the next tables I have given the proportionate mortality of the several totals of the preceding columns, and also, for the sake of comparison, the

* Of these there were, under the age of 5 years, cases 221, died 22.
† Of these there were, under the age of 5 years, cases 265, died 29.

proportionate mortality of the same classes of cases for the three years, 1833, 1834, and 1835, collectively.

| | Cases. | Died. | Proportionate mortality. | For 1833, 1834, and 1835, |
|---|---|---|---|---|
| **Under 10 years.** | | | | |
| Males ..... | 350 ... | 35 | 1 to 10, | 1 to 13, |
| Females ..... | 402 ... | 34 | 1 to 11,82 | 1 to 13,17 |
| Total ..... | 752 | 69 | 1 to 10,9 | 1 to 13,09 |
| **Above that age.** | | | | |
| Males ..... | 804 ... | 37 | 1 to 21,65 | 1 to 24,84 |
| Females ..... | 1419 ... | 35 | 1 to 40,54 | 1 to 41,18 |
| Total ..... | 2223 | 72 | 1 to 30,88 | 1 to 33,26 |
| **Males.** | | | | |
| Under 10 years .. | 350 ... | 35 | 1 to 10, | 1 to 13, |
| Above that age .. | 804 ... | 37 | 1 to 21,65 | 1 to 24,84 |
| Total ..... | 1154 | 72 | 1 to 16,03 | 1 to 19,23 |
| **Females.** | | | | |
| Under 10 years .. | 402 ... | 34 | 1 to 11,82 | 1 to 13,17 |
| Above that age .. | 1419 ... | 35 | 1 to 40,54 | 1 to 41,18 |
| Total ..... | 1821 .... | 69 | 1 to 26,4 | 1 to 28,25 |
| **Total.** | | | | |
| Males ..... | 1154 ... | 72 | 1 to 16,03 | 1 to 19,23 |
| Females ..... | 1821 ... | 69 | 1 to 26,4 | 1 to 28,25 |
| Total..... | 2975 ... | 141 | 1 to 21,1 | 1 to 23,82 |

The last column, exhibiting the proportionate mortality of more than 10,000 cases occurring in three consecutive years, necessarily contains a nearer approximation to the true rate of mortality in the class of cases usually attended to at a parochial Infirmary, than would be obtained by the analysis of the cases of any one year. On comparing that column with the one shewing the proportionate mortality for 1835 alone, a considerable difference will be observed in some parts, and in all it may be noticed that the average mortality is greater in the latter than in the former. The chief differences are seen to be in the males, and in the cases of both sexes which occurred under the age of ten years. In the former, the higher rate of mortality appears

to be accidental, arising from the greater number of the fatal cases of diseases of the lungs happening amongst the men, 21 out of 37: but in the latter instance, the greater proportionate mortality was the result, almost entirely, of the unusual prevalence, during nearly the whole year, of scarlet fever among children; which disease, occasionally throughout the year, but especially in the spring and autumn, assumed a very malignant form. These circumstances, whether apparently accidental, or depending on the greater frequency and more dangerous character of certain diseases in some years, must, of course, vitiate results collected from a short space of time, and require for their due correction that the observations should be extended over a lengthened period.

Before noticing any circumstances relating to particular cases, or kinds of disease, I think it may not be uninteresting to exhibit, in a tabular form, the whole of the 141 cases which had a fatal termination, so as to point out, not only the diseases, but also, to a certain extent, the ages and sexes of these patients, and the period of life at which the greatest actual mortality prevailed amongst them. One of my reasons for doing this, is to shew how large a number of the deaths occurred under the age of ten years, and before the health of the individuals could have been directly influenced by the manufactures of the town. Of these fatal cases 51 were under the age of five years, and 69 under the age of ten years, and none of them were engaged in any trade: indeed, except in the pin manufactories, it is by no means a common circumstance for children under

the latter age to be employed here in the workshops. Of the 72 cases above the age of ten years, only 43 were engaged in any employment, viz. 32 males, and 11 females: their occupations and the diseases of which they died, are given in the subsequent table.

*Diseases and Ages of the* 141 *fatal cases.*

| | 1st Year. | 1st to 5th. | 5th to 10th. | 10th to 20th. | 20th to 30th. | 30th to 40th. | 40th to 50th. | 50th to 60th. | 60th to 70th. | 70th to 80th. | 80th to 90th. | Males. | Females. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dentitio | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Erythema marginatum | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Febris rem. Infantum | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Pertussis | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 3 | 4 |
| Variola | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 3 | 3 |
| Convulsiones Infantum | 3 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 | 2 | 6 |
| Marasmus | 3 | 5 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | 2 | 9 | 11 |
| Scarlatina | 2 | 10 | 10 | 1 | ... | ... | ... | ... | ... | ... | ... | 12 | 11 | 23 |
| Pneumonia | 1 | 1 | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 4 | ... | 4 |
| Laryngitis acutus | 1 | 1 | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 | ... | 3 |
| Diarrhœa | 4 | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 | ... | 1 | 6 | 7 |
| Synochus | 1 | 5 | 2 | 1 | 1 | 1 | ... | 2 | ... | ... | ... | 10 | 3 | 13 |
| Burn | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Hydrocephalus acutus | ... | ... | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 2 | 3 |
| Phthisis Pulmonum | ... | ... | ... | 2 | 5 | 11 | 3 | 2 | ... | ... | ... | 13 | 10 | 23 |
| Cynanche tonsillaris | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Fungus medullaris | ... | ... | ... | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 | 2 |
| Bronchitis acutus | ... | .. | ... | ... | 1 | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Peritonitis acutus | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | 2 | 2 |
| Pleuritis | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Mania | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Epilepsia | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | 1 | 1 | 2 |
| Ascites | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | ... | 1 | 1 | 2 |
| Bronchitis chronicus | ... | ... | ... | ... | ... | ... | ... | 3 | 5 | 3 | ... | 5 | 6 | 11 |
| Glottitis acutus | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 1 | 1 |
| Anasarca | .. | .. | ... | ... | ... | ... | ... | 1 | 2 | ... | ... | ... | 3 | 3 |
| Scirrhous Pylorus | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | ... | ... | 2 | ... | 2 |
| Purpura | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 |
| Cholera biliosa | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 |
| Incontinentia Urinæ | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 | ... | 1 |
| Hernia | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 1 | 1 |
| Icterus | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 |
| Apoplexia | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 |
| Constipatio | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 |
| Fractura | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | 1 |
| Males | 8 | 14 | 13 | 3 | 7 | 8 | 3 | 5 | 7 | 4 | ... | 72 | 69 | 141 |
| Females | 13 | 16 | 5 | 3 | 4 | 6 | 5 | 6 | 7 | 3 | 1 | 69 | | |
| Total | 21 | 30 | 18 | 6 | 11 | 14 | 8 | 11 | 14 | 7 | 1 | 141 | | |

*Diseases and Occupations of 43 fatal cases.*

| | Phthisis. | Chr. Bronchitis. | Ac. Bronchitis. | Synochus. | Ascites. | Scirrhus Pylori | Pneumonia. | Pleuritis. | Ac. Laryngitis. | Epilepsia. | Apoplexia. | Constipatio. | Cholera biliosa. | Fungus medul. | Cynanche tons. | Mania. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MALES. | | | | | | | | | | | | | | | | | |
| Tailors | 4 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 6 |
| Butchers | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | 3 |
| Shoe-makers | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | 3 |
| Clerk | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Cabinet-makers and Carpenters | 1 | 1 | ... | 1 | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | 4 |
| Labourers | 1 | ... | ... | ... | ... | 1 | ... | 1 | ... | 1 | ... | ... | ... | ... | ... | ... | 4 |
| Mason | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | ... | ... | 1 | 1 |
| Boatman | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | 1 |
| Pedlers | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | ... | 2 |
| Smiths | ... | 1 | ... | ... | 1 | ... | ... | ... | .. | ... | ... | ... | ... | ... | ... | ... | 2 |
| Spectacle frame-maker | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | . | ... | ... | ... | 1 |
| Button-makers | ... | 1 | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Brass-founders | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| FEMALES. | | | | | | | | | | | | | | | | | |
| Washing and Mangling | 2 | 1 | ... | ... | ... | . | . . | ... | ... | ... | ... | ... | . . | ... | ... | ... | 3 |
| Market-woman | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | .. | ... | ... | ... | 1 |
| Nurse | ... | . . | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Burnisher | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | 1 |
| Button-maker | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | ... | ... | 1 |
| Japanner | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Lamp and Chandelier-makers | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 |
| Hook and Eye-maker | ... | ... | ... | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 |
| Total | 18 | 7 | 1 | 3 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 43 |

A number of cases so extremely small as that contained in the preceding table, can afford no information whatever respecting the influence of the trades of this place on the health of its manufacturing population; and the same objection will still apply, with scarcely diminished force, to the following list, which, however, I am induced to insert with this brief explanation. Of the whole number of out-cases under my care, *which terminated fatally* in the three years, 1833, 1834, and 1835, 134 were engaged in some trade, or other occupation; of these, 100 were males, and 34 were females; and 76 of the former, and 26 of the latter died of con-

sumption, chronic and acute bronchitis, and continued fever or typhus. The few cases of other diseases I omit noticing, in order to reduce the table to as small a size as possible.

| | Phthisis. | Chr. Bronchitis. | Ac. Bronchitis. | Synochus. |
|---|---|---|---|---|
| MALES. | | | | |
| Tailors | 5 | 2 | ... | ... |
| Shoemakers | 2 | 2 | 1 | ... |
| Clerks | 2 | ... | ... | ... |
| Butchers | 2 | ... | ... | ... |
| Labourers and Gardeners.. | 2 | ... | ... | ... |
| Masons and Bricklayers... | 2 | 1 | ... | ... |
| Pedlers | 1 | 1 | ... | 1 |
| Porters | 1 | ... | ... | 1 |
| Ostler | 1 | ... | ... | ... |
| Barometer and Mirror-makers | 3 | ... | ... | ... |
| Painter | 1 | ... | ... | ... |
| Skinner | 1 | ... | ... | ... |
| Carpenters and Cabinet-makers | 2 | 1 | ... | 1 |
| Brush-maker | ... | ... | ... | 1 |
| Whip-maker | 1 | ... | ... | ... |
| Wood-turner | ... | 1 | ... | ... |
| Tray-makers | 1 | ... | 1 | ... |
| Brass-founders | 8 | ... | ... | ... |
| Brass-cock-founder | ... | 1 | ... | ... |
| Button-maker | ... | 1 | ... | ... |
| Pearl-button-maker | 1 | ... | ... | ... |
| Lamp-makers | 1 | ... | ... | 1 |
| Gas-light-fitter | ... | ... | ... | 1 |
| Tea-urn-maker | 1 | ... | ... | ... |
| Tea-pot-maker | 1 | ... | ... | ... |
| Platers | 1 | ... | ... | 1 |
| Jeweller | 1 | ... | ... | ... |
| Chaser | 1 | ... | ... | ... |
| Gilt-toy-maker | 1 | ... | ... | ... |
| Smiths | ... | 1 | 1 | ... |
| Nailer | ... | ... | ... | 1 |

| | Phthisis. | Chr. Bronchitis. | Ac. Bronchitis. | Synochus. |
|---|---|---|---|---|
| MALES. | | | | |
| Wire-drawer | 1 | ... | ... | ... |
| Whip-machine-maker | 1 | ... | ... | ... |
| Steel-toy-makers | ... | 1 | ... | 1 |
| Spectacle-frame-maker | 1 | ... | ... | ... |
| Bit-maker | ... | 1 | ... | ... |
| Frying-pan-maker | 1 | ... | ... | ... |
| Chain-maker | 1 | ... | ... | ... |
| Buckle-maker | ... | ... | ... | 1 |
| Gimlet-maker | ... | ... | ... | 1 |
| Spoon-maker | 1 | ... | ... | ... |
| Total | 49 | 13 | 3 | 11 |
| FEMALES. | | | | |
| Sempstress | ... | ... | 1 | ... |
| Shoe-binder | 1 | ... | ... | ... |
| Servants | 2 | ... | 1 | ... |
| Laundresses | 4 | 2 | ... | ... |
| Hucksters and Market-women | 1 | 1 | ... | ... |
| Coal-heaver | 1 | ... | ... | ... |
| Brace-maker | 1 | ... | ... | ... |
| Button & Plate-burnishers | 1 | 1 | ... | ... |
| Screw-makers | 1 | ... | ... | 1 |
| Stair-rod-maker | 1 | ... | ... | ... |
| Japanner | 1 | ... | ... | ... |
| Hook and Eye-maker | ... | ... | ... | 1 |
| *Lamp* & Chandelier-makers | 1 | 1 | ... | ... |
| *Plater* | 1 | ... | ... | ... |
| *Nailer* | ... | ... | ... | 1 |
| Total | 16 | 5 | 2 | 3 |

From the employments of the labouring classes in Birmingham being very numerous and varied,

and from its being not unfrequently the custom for even the several processes through which an article of manufacture passes, to constitute separate and distinct trades, it becomes a question of some difficulty, how to designate the occupations of the workmen in a table, so as to convey an accurate notion of what is intended, without, at the same time, making the list of an inconvenient length. In arranging the tables given in this report, I have been fully aware of this difficulty, and have been anxious to avoid making unnecessary subdivisions of the employments; but, owing to their multifarious nature, the list is still a long one. The only attempt at a classification of the employments which I have made in any of the tables, is that of placing together, first, those occupations which are common to all town populations; and, afterwards, those which are peculiar to a population, like that of Birmingham, extensively engaged in the manufacturing of metallic articles, distinguishing, in this latter division, the workers in brass, silver, iron, &c. I have placed the females in a separate list in each table; and I have marked by *italics* where their occupations are the same as those of the males. The fatal cases are not again specified in the subsequent lists of employments, as they have already been given in a separate table.

In addition to the brief tabular statements of particular diseases, which I adopted in my former reports, there are also annexed a few other short tables, shewing the time of life at which, in either sex, some of the diseases occurred.

BRONCHITIS, CHRONIC AND ACUTE.

| | MALES. | | FEMALES. | |
|---|---|---|---|---|
| 1st Quarter ..... | 30 | 1 died. | 49 | 2 died. |
| 2nd Quarter ..... | 19 | 3 died. | 25 | 2 died. |
| 3rd Quarter ..... | 11 | 1 died. | 27 | 0 died. |
| 4th Quarter ..... | 25 | 1 died. | 51 | 2 died. |
| | 85 | 6 died. | 152 | 6 died. |

For 1833, 1834, & 1835.

| | | | |
|---|---|---|---|
| The 237 cases of bronchitis are, to the whole number of cases of disease, as | 1 to 12,55 | ... 1 to | 15,1 |
| The deaths, 12, are, to the 237 cases, as | 1 to 19,75 | ... 1 to | 14,4 |
| Ditto ditto to the whole number of deaths, as ..... | 1 to 11,75 | ... 1 to | 9,13 |
| Ditto ditto to the whole number of cases of disease, as ..... ..... | 1 to 247,92 | ... 1 to | 217,35 |

The following tables shew the periods of life at which, in either sex, the 237 cases occurred; and also the occupations of the patients:—

| | Under 30 yrs. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | 80 & upwards. | Total. |
|---|---|---|---|---|---|---|---|---|
| Males ..... | 7 | 15 | 21 | 16 | 19 | 6 | 1 | 85 |
| Females ..... | 28 | 30 | 37 | 21 | 25 | 9 | 2 | 152 |
| Total ..... | 35 | 45 | 58 | 37 | 44 | 15 | 3 | 237 |

MALES.

| | | | |
|---|---|---|---|
| Tailors ..... | 4 | Plater ..... | 1 |
| Shoe-maker ..... | 1 | Coach-harness-makers ... | 2 |
| Butcher ..... | 1 | Jeweller ..... | 1 |
| Labourers and Gardeners. | 11 | Lapidary ..... | 1 |
| Watermen ..... | 2 | Pencil-case-makers ... | 2 |
| Watchman ..... | 1 | Smiths ..... | 2 |
| Pedlers ..... | 2 | Wire-worker ..... | 1 |
| Porters ..... | 4 | Gun-barrel-makers ... | 2 |
| Ostlers ..... | 2 | Sword-cutlers ..... | 2 |
| Packer ..... | 1 | Snuffer-maker ..... | 1 |
| Brewers ..... | 2 | Tool-maker ..... | 1 |
| Sawyers ..... | 3 | Plane-maker ..... .. | 1 |
| Carpenters ..... | 2 | File-cutter ..... | 1 |
| Saddle-tree-maker .... | 1 | Bellows-makers ..... | 3 |
| Brush-maker ..... | 1 | Engineer . ..... | 1 |
| Brass-founders ..... | 8 | Steel-toy-maker ..... | 1 |
| Button-makers ..... | 4 | No occupation ..... | 9 |
| Burnisher of buttons ... | 1 | | |

FEMALES.

| | | | |
|---|---|---|---|
| Sempstresses | 2 | Japanners | 4 |
| *Shoe-maker* | 1 | *Brass-worker* | 1 |
| Shoe-binders | 2 | *Button-makers* | 6 |
| Nurses | 2 | Pearl-button-makers | 2 |
| Laundresses | 11 | Lamp-maker | 1 |
| *Pedler* | 1 | Pin-makers | 4 |
| Hucksters | 3 | Burnisher | 1 |
| *Packer* | 1 | Tray-polisher | 1 |
| Coal-dealer | 1 | *Lapidary* | 1 |
| Coal-heaver | 1 | Nailer | 1 |
| Bridle-stitcher | 1 | *Wire-worker* | 1 |
| Brace-maker | 1 | Screw-maker | 1 |
| Printing | 1 | No occupation | 93 |

## PHTHISIS PULMONUM.

| MALES. | | FEMALES. | |
|---|---|---|---|
| 25 | 13 died. | 13 | 10 died. |

| | For 1833, 1834, & 1835. | |
|---|---|---|
| The 38 cases of consumption are, to the whole number of cases of disease, as ... | 1 to 78,3 ... | 1 to 86,94 |
| The deaths, 23, are, to the 38 cases, as... | 1 to 1,68 ... | 1 to 1,38 |
| Ditto ditto to the whole number of deaths, as ... | 1 to 6,13 ... | 1 to 5,03 |
| Ditto ditto to the whole number of cases of disease, as ... | 1 to 129,35 ... | 1 to 119,92 |

| | Under 20 yrs. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | Total. |
|---|---|---|---|---|---|---|
| Males | 4 | 8 | 9 | 3 | 1 | 25 |
| Females | 3 | 2 | 5 | 2 | 1 | 13 |
| Total | 7 | 10 | 14 | 5 | 2 | 38 |

MALES.

| | |
|---|---|
| Tailors | 4 |
| Shoe-maker | 1 |
| Clerk | 1 |
| Butchers | 2 |
| Labourers | 2 |
| Mason | 1 |
| Cabinet-maker | 1 |
| Cooper | 1 |
| Brush-makers | 2 |
| Brass-founders | 3 |
| Chasers | 2 |
| Pencil-maker | 1 |
| Steel-toy-maker | 1 |

MALES.

| | |
|---|---|
| Spectacle-frame-maker | 1 |
| Steel-pen-maker | 1 |
| No occupation | 1 |

FEMALES.

| | |
|---|---|
| Lace-maker | 1 |
| Servant | 1 |
| Laundresses | 2 |
| Market-woman | 1 |
| Lamp-maker | 1 |
| Lapidary | 1 |
| Japanner | 1 |
| No occupation | 5 |

## SYNOCHUS.

| | MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|---|
| | Under 10 years. | | Above. | | Under 10 years. | | Above. | |
| 1st Quarter ... | 14 | 3 died. | 6 | 1 died. | 14 | 0 died. | 8 | 0 died. |
| 2nd Quarter ... | 13 | 1 died. | 5 | 0 died. | 20 | 1 died. | 18 | 2 died. |
| 3rd Quarter ... | 7 | 2 died. | 17 | 1 died. | 13 | 0 died. | 14 | 0 died. |
| 4th Quarter ... | 13 | 1 died. | 7 | 1 died. | 12 | 0 died. | 15 | 0 died. |
| | 47 | 7 died. | 35 | 3 died. | 59 | 1 died. | 55 | 2 died. |

| | For 1833, 1834, & 1835. | | | |
|---|---|---|---|---|
| The 196 cases of synochus are, to the whole number of cases of disease. as ... | 1 to | 15,18 ... | 1 to | 14,84 |
| The deaths, 13, are, to the 196 cases, as | 1 to | 15,08 ... | 1 to | 15,62 |
| Ditto ditto to the whole number of deaths, as ..... | 1 to | 10,85 ... | 1 to | 9,73 |
| Ditto ditto to the whole number of cases of disease, as ..... | 1 to | 228,85 ... | 1 to | 231,84 |

| | Under 10 yrs. | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | Total. |
|---|---|---|---|---|---|---|---|---|---|
| Males ..... | 47 | 15 | 11 | 4 | 1 | 3 | ... | ... | 81 |
| Females.... | 59 | 17 | 14 | 11 | 6 | 4 | 3 | 1 | 115 |
| Total ..... | 106 | 32 | 25 | 15 | 7 | 7 | 3 | 1 | 196 |

| MALES. | | FEMALES. | |
|---|---|---|---|
| Servants ..... | 2 | Laundresses ..... | 3 |
| Labourers ..... | 4 | Hucksters ..... | 2 |
| Pedler ..... | 1 | Patten-tye-maker ..... | 1 |
| Porter ..... | 1 | Straw-plaiter ..... | 1 |
| Ostler ..... ..... | 1 | Umbrella-maker ..... | 1 |
| Carpenters ..... | 2 | *Brass-worker* ..... | 1 |
| Bone-turner ..... | 1 | *Button-makers* ..... | 4 |
| Marble-polisher ..... | 1 | Bronzer ..... | 1 |
| Brush-maker ..... ..... | 1 | Japanners ..... | 2 |
| Brass-founders ..... | 8 | Chandelier-maker ..... | 1 |
| Button-makers ..... | 3 | Burnishers ..... | 3 |
| Tool-maker ..... | 1 | Wire-worker ..... | 1 |
| Tray-maker ..... | 1 | Hook and Eye-makers ... | 2 |
| Tin-plate-worker ..... | 1 | *Tray-maker* ..... | 1 |
| Steel-grinder ..... | 1 | Screw-makers ..... | 2 |
| Chain-maker ..... ... | 1 | No occupation ..... | 89 |
| Spectacle-frame-maker ... | 1 | | |
| Spoon-maker ..... | 1 | | |
| No occupation .... ..... | 49 | | |

## SCARLATINA.

| | MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|---|
| | Under 10 years. | | Above. | | Under 10 years. | | Above. | |
| 1st Quarter ... | 10 | 7 died. | 1 | 0 died. | 12 | 2 died. | 1 | 0 died. |
| 2nd Quarter ... | 19 | 2 died. | 4 | 0 died. | 19 | 1 died. | 8 | 0 died. |
| 3rd Quarter ... | 11 | 0 died. | 7 | 0 died. | 17 | 3 died. | 6 | 1 died. |
| 4th Quarter ... | 10 | 3 died. | 3 | 0 died. | 12 | 4 died. | 2 | 0 died. |
| | 50 | 12 died. | 15 | 0 died. | 60 | 10 died. | 17 | 1 died. |

| | For 1833, 1834, & 1835. | | | |
|---|---|---|---|---|
| The 142 cases of scarlatina are, to the whole number of cases of disease, as ... | 1 to | 20,95 | ... 1 to | 37,75 |
| The deaths, 23, are, to the 142 cases, as | 1 to | 6,17 | ... 1 to | 9,17 |
| Ditto ditto to the whole number of deaths, as ..... ..... | 1 to | 6,13 | ... 1 to | 14,6 |
| Ditto ditto to the whole number of cases of disease, as ..... | 1 to | 129,35 | ... 1 to | 347,77 |

| | In the 1st yr. | From 1 to 5. | From 5 to 10. | From 10 to 20. | From 20 to 30. | From 30 to 40. | Total. |
|---|---|---|---|---|---|---|---|
| Males ..... | 1 | 20 | 29 | 13 | 1 | 1 | 65 |
| Females ..... | 4 | 26 | 30 | 9 | 5 | 3 | 77 |
| Total ..... | 5 | 46 | 59 | 22 | 6 | 4 | 142 |

In ten of the cases only were the patients engaged in any occupation, viz.—

| MALES. | | FEMALES. | |
|---|---|---|---|
| Brass-founder ..... | 1 | Sempstress ..... | 1 |
| Plater ..... | 1 | Lace-maker ..... | 1 |
| Iron-founder ..... | 1 | Button-maker ..... | 1 |
| Frying-pan-maker ..... | 1 | Wire-worker ..... | 1 |
| Tool-maker ..... | 1 | | |
| Snuffer-maker ..... | 1 | | |

## PERTUSSIS.

| MALES. | | FEMALES. | |
|---|---|---|---|
| 13 | 1 died. | 25 | 3 died. |

Two of the cases, one male and one female, were at the age of ten years and upwards; the others, including all the fatal cases, were under ten years of age.

| | | For 1833, 1834, & 1835. |
|---|---|---|
| The 38 cases of hooping cough are, to the whole number of cases of disease, as ..... | 1 to 78,29 | ... 1 to 57,96 |
| The deaths, 4, are, to the 38 cases, as ..... | 1 to 9,5 | ... 1 to 11,25 |

VARIOLA.

| MALES. | | FEMALES. | |
|---|---|---|---|
| 5 | 0 died. | 9 | 3 died. |

| | | For 1833, 1834, & 1835. |
|---|---|---|
| The 14 cases of small-pox are, to the whole number of cases of disease, as..... | 1 to 212,5 | ... 1 to 90,72 |

Four of the females were of the age of ten years and upwards, and none of these died; the other cases were all under that age.

In the years 1833, 1834, and 1835, there were 115 cases of small-pox, and also 17 cases of that disease occurring after vaccination; the latter being to the former as 1 to 6.76; and these 17 cases are, to the whole number of cases of disease given in my reports for those three years, as 1 to 613.7. Of the two cases of small-pox, after vaccination, which I attended in 1835, my memoranda are as follows:—

September 23.—William Ingram, 25 years of age, a labourer, and married. He was vaccinated in early childhood, but does not recollect at what age. There is a single mark on his left arm, it is large and pitted. A strong and healthy young man. He lived, till the last fortnight, in another part of the town where there was small-pox in the yard in which he then resided. His attack of the disease is a severe one, attended with much fever.

September 30.—John Worrall, 4 years of age, was vaccinated when an infant; there are two distinct marks on his left arm. For some time before he became ill with small-pox, he had had hooping-cough, which latter disease nearly left the child during the attack of small-pox, but returned afterwards. The small-pox was not very severe.

## DYSPEPSIA.

| | MALES. | FEMALES. |
|---|---|---|
| 1st Quarter ..... | 10 | 26 |
| 2nd Quarter ..... | 7 | 50 |
| 3rd Quarter ..... | 10 | 54 |
| 4th Quarter ..... | 15 | 59 |
| | 42 | 189 |

For 1833, 1834, & 1835.

The 231 cases of dyspepsia are, to the whole number of cases of disease, as ..... } 1 to 12,97 ... 1 to 15,93

| | Under 20 yrs. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | From 80 to 90. | Total. |
|---|---|---|---|---|---|---|---|---|---|
| Males ..... | 3 | 8 | 9 | 10 | 4 | 6 | 1 | 1 | 42 |
| Females.... | 17 | 44 | 41 | 53 | 25 | 8 | 1 | ... | 189 |
| Total..... | 20 | 52 | 50 | 63 | 29 | 14 | 2 | 1 | 231 |

MALES.

| | |
|---|---|
| Tailors ..... | 2 |
| Shoe-makers ..... | 2 |
| Butcher ..... | 1 |
| Labourers, Gardeners ..... | 5 |
| Market-man ..... | 1 |
| Watchman ..... | 1 |
| Pedler ..... | 1 |
| Carpenters & Cabinet-makers | 4 |
| Wood-turner ..... | 1 |
| Tobacco-manufacturer ... | 1 |
| Painter ..... | 1 |
| Comb-makers ..... | 2 |
| Rule-maker ..... | 1 |
| Brass-founders ..... | 4 |
| Brass-stamper ..... | 1 |
| Candlestick-maker ..... | 1 |
| Button-maker ..... | 1 |
| Pearl-button-maker ..... | 1 |
| Plater and Silversmith ... | 2 |
| Jeweller ..... | 1 |
| Steel-toy-makers ..... | 2 |
| Chain-makers ..... | 2 |
| Hinge-maker ..... | 1 |
| Spoon-maker ..... | 1 |
| No occupation ..... | 2 |

FEMALES.

| | |
|---|---|
| Sempstresses ..... | 12 |
| *Shoe-maker* ..... | 1 |
| Shoe-binders ..... | 3 |
| Servants ..... | 4 |

FEMALES.

| | |
|---|---|
| Laundresses ..... | 31 |
| Hucksters & *Market-women* | 4 |
| Weaver ..... | 1 |
| Upholsteress ..... | 1 |
| Silk-winder ..... | 1 |
| Cotton-winder ..... | 1 |
| Whipcord-maker ..... | 1 |
| Brace-makers ..... | 2 |
| Bridle-stitchers ..... | 2 |
| Pocket-book-maker ..... | 1 |
| Feather-dresser ..... | 1 |
| Plaster-of-Paris-maker ... | 1 |
| Paper-stainer ..... | 1 |
| Japanners ..... | 12 |
| *Comb-makers* ..... | 3 |
| *Brass-worker* ..... | 1 |
| *Button-makers* ..... | 11 |
| *Pearl-button-maker* ..... | 1 |
| Glass-button-maker ..... | 1 |
| Glass-cutter ..... | 1 |
| Lamp-maker ..... | 1 |
| Burnishers ..... | 7 |
| Gilt-toy-makers ..... | 3 |
| Pin-makers ..... | 2 |
| Nailer ..... | 1 |
| Gun-barrel-grinder ..... | 1 |
| *Spoon-maker* ..... | 1 |
| Screw-makers ..... | 5 |
| No occupation ..... | 70 |

## DIARRHŒA.

| | MALES. | | | | FEMALES. | | | |
|---|---|---|---|---|---|---|---|---|
| | Under 10 years. | | Above. | | Under 10 years. | | Above. | |
| 1st Quarter ... | 4 | 0 died. | 2 | 0 died. | 2 | 0 died. | 7 | 1 died. |
| 2nd Quarter ... | 4 | 0 died. | 4 | 0 died. | 3 | 0 died. | 8 | 2 died. |
| 3rd Quarter ... | 33 | 1 died. | 6 | 0 died. | 41 | 2 died. | 38 | 0 died. |
| 4th Quarter ... | 18 | 0 died. | 3 | 0 died. | 16 | 1 died. | 15 | 0 died. |
| | 59 | 1 | 15 | 0 | 62 | 3 | 68 | 3 |

| | For 1833, 1834, and 1835. |
|---|---|
| The 204 case of diarrhœa are, to the whole number of cases of disease, as ..... | 1 to 14,58 ... 1 to 18,53 |
| The deaths, 7, are, to the 204 cases, as... | 1 to 29,14 ... 1 to 51,18 |
| Ditto ditto to the whole number of deaths, as ..... | 1 to 20,14 ... 1 to 39,82 |
| Ditto ditto to the whole number of cases of disease, as ..... | 1 to 425, ... 1 to 948,45 |

| | In the 1st year. | From 1 to 5. | From 5 to 10. | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Males ..... | 18 | 32 | 9 | 1 | 3 | 5 | 3 | 1 | ... | 2 | 74 |
| Females ..... | 21 | 34 | 7 | 11 | 19 | 12 | 12 | 9 | 4 | 1 | 130 |
| Total ..... | 39 | 66 | 16 | 12 | 22 | 17 | 15 | 10 | 4 | 3 | 204 |

| MALES. | | FEMALES. | |
|---|---|---|---|
| Shoe-maker ..... | 1 | Sempstress ..... | 1 |
| Sweep ..... | 1 | Lace-maker ..... | 1 |
| Watermen ..... | 2 | Servants ..... | 2 |
| Brewer ..... ..... | 1 | Laundresses ..... | 10 |
| Carpenter ..... | 1 | Packer ..... | 1 |
| Comb-maker ..... | 1 | Paper-box-maker ..... | 1 |
| Brass-founder ..... | 1 | *Comb-maker* ..... | 1 |
| Pin-maker ..... | 1 | *Brass-workers* ..... | 2 |
| Britannia-metal-worker ..... | 1 | Button-makers ..... | 2 |
| Plater ..... | 1 | Pearl-buttton-makers ..... | 3 |
| Gun-maker ..... | 1 | *Pin-maker* ..... | 1 |
| Steel-toy-makers ..... | 2 | Burnishers ..... | 2 |
| No occupation ..... | 60 | Tray-polisher ..... .... | 1 |
| | | Gilt-toy-makers ..... . | 2 |
| | | Lock-maker ..... | 1 |
| | | Screw-maker ..... | 1 |
| | | No occupation ..... | 98 |

## CHOLERA BILIOSA.

| MALES. | | FEMALES. |
|---|---|---|
| 12 | 1 died. | 13. |

For 1833, 1834, & 1835.

The 25 cases of cholera are, to the whole number of cases of disease, as ..... } 1 to 119,- ... 1 to 112,18

| | Under 10 yrs. | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | Total. |
|---|---|---|---|---|---|---|---|---|
| Males ..... | 2 | ... | 1 | 2 | 3 | 1 | 3 | 12 |
| Females ..... | 1 | 2 | ... | 3 | 3 | 1 | 3 | 13 |
| Total ..... | 3 | 2 | 1 | 5 | 6 | 2 | 6 | 25 |

| MALES. | | FEMALES. | |
|---|---|---|---|
| Labourer ..... | 1 | Shoe-binder ..... | 1 |
| Pedler ..... | 1 | Laundress ..... | 1 |
| Brewer ..... | 1 | Mop-maker ..... | 1 |
| Carpenters ..... | 2 | Packer ..... | 1 |
| Brass-founder ..... | 1 | Pin-maker ..... | 1 |
| Sword-cutler ..... | 1 | Burnisher ..... | 1 |
| Bridle-bit-maker ..... | 1 | No occupation ..... | 7 |
| Snuffer-maker ..... | 1 | | |
| Steel-toy-maker ..... | 1 | | |
| No occupation ..... | 2 | | |

## CONSTIPATIO.

| | MALES. | | FEMALES. |
|---|---|---|---|
| 1st Quarter ..... | 1 | 0 died. | 7 |
| 2nd Quarter ..... | 2 | 0 died. | 11 |
| 3rd Quarter ..... | 4 | 1 died. | 14 |
| 4th Quarter ..... | 5 | 0 died. | 15 |
| | 12 | 1 died. | 47 |

For 1833, 1834, & 1835.

The 59 cases of constipation are, to the whole number of cases of disease, as ..... } 1 to 50,42 ... 1 to 44,2

| | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | Total. |
|---|---|---|---|---|---|---|---|---|
| Males ..... | 1 | 6 | 1 | 2 | 1 | ... | 1 | 12 |
| Females ..... | 8 | 11 | 10 | 7 | 6 | 5 | ... | 47 |
| Total ..... | 9 | 17 | 11 | 9 | 7 | 5 | 1 | 59 |

| MALES. | | FEMALES. | |
|---|---|---|---|
| Tailor | 1 | Laundresses | 3 |
| Shoe-maker | 1 | Huckster | 1 |
| Butcher | 1 | Book-binder | 1 |
| Carpenters | 2 | Paper-colourer | 1 |
| Brass-founder | 1 | Press-worker | 1 |
| Japanner | 1 | Button-makers | 3 |
| Glass-cutter | 1 | Pearl-button-maker | 1 |
| Smith | 1 | Pin-maker | 1 |
| Iron-founder | 1 | Burnishers | 2 |
| File-cutter | 1 | Gilder | 1 |
| Steel-toy-maker | 1 | Dial-maker (clock) | 1 |
| FEMALES. | | Tray-maker | 1 |
| Sempstresses | 2 | Iron-tip-maker | 1 |
| Bonnet-maker | 1 | Snuffer-maker | 1 |
| Shoe-binder | 1 | Gun-polisher | 1 |
| Servants | 2 | No occupation | 19 |
| School-mistresses | 2 | | |

## HÆMORRHOIS.

| MALES. | FEMALES. |
|---|---|
| 11 | 17 |

For 1833, 1834, & 1835.

The 28 cases of hæmorrhois are, to the whole number of cases of disease, as ... 1 to 106,25 ... 1 to 144,9

| | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | Total. |
|---|---|---|---|---|---|---|---|
| Males | 3 | 4 | 1 | 3 | ... | ... | 11 |
| Females | ... | 4 | 9 | 2 | 1 | 1 | 17 |
| Total | 3 | 8 | 10 | 5 | 1 | 1 | 28 |

| MALES. | | FEMALES. | |
|---|---|---|---|
| Shoe-maker | 1 | Bonnet-makers | 2 |
| Labourer | 1 | Stay-maker | 1 |
| Painters | 2 | Laundresses | 2 |
| Comb-maker | 1 | Umbrella-maker | 1 |
| Plater | 1 | Japanner | 1 |
| Jeweller | 1 | Tray-maker | 1 |
| Smith | 1 | No occupation | 9 |
| Iron-founders | 2 | | |
| Cutler | 1 | | |

## RHEUMATISM, AC. AND CHR., LUMBAGO, AND SCIATICA.

| | MALES. | FEMALES. |
|---|---|---|
| 1st Quarter | 13 | 9 |
| 2nd Quarter | 15 | 8 |
| 3rd Quarter | 12 | 15 |
| 4th Quarter | 17 | 14 |
| | 57 | 46 |

For 1833, 1834, & 1835.

These 103 cases are, to the whole number of cases of disease, as ..... } 1 to 28,88 ... 1 to 30,78

| | Under 10 years. | From 10 to 20. | From 20 to 30. | From 30 to 40. | From 40 to 50. | From 50 to 60. | From 60 to 70. | From 70 to 80. | From 80 to 90. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|
| Males ..... | 1 | 4 | 17 | 16 | 6 | 6 | 5 | 1 | 1 | 57 |
| Females ..... | — | 5 | 12 | 10 | 8 | 5 | 6 | — | — | 46 |
| Total ..... | 1 | 9 | 29 | 26 | 14 | 11 | 11 | 1 | 1 | 103 |

| MALES. | | MALES. | |
|---|---|---|---|
| Shoe-makers ..... | 2 | Smiths ..... | 3 |
| Labourers and Gardeners ... | 8 | Tool-makers ..... | 2 |
| Actor ..... | 1 | Steel-toy-makers ..... | 2 |
| Porter ..... | 1 | Locksmith ..... | 1 |
| Ostler ..... | 1 | Gun-barrel-makers ..... | 2 |
| Carter ..... | 1 | Screw-maker ..... | 1 |
| Brick-maker ..... | 1 | No occupation ..... | 2 |
| Masons ..... | 2 | FEMALES. | |
| Twine-maker ..... | 1 | Sempstress ..... | 1 |
| Carpenters ..... | 2 | Bonnet-maker ..... | 1 |
| Wood-turner ..... | 1 | Servants ..... | 7 |
| Saddler ..... | 1 | Laundresses ..... | 13 |
| Cigar-maker ..... | 1 | School-mistress ..... | 1 |
| Painter ..... | 1 | Pedlers ..... | 2 |
| Gasman ..... | 1 | Packer ..... | 1 |
| Comb-makers ..... | 3 | Button-makers ..... | 2 |
| Brush-makers ..... | 2 | Burnishers ..... | 2 |
| Brass-founders ..... | 5 | Japanners ..... | 2 |
| Pearl-button-makers ..... | 2 | Pin-maker ..... | 1 |
| Jewellers ..... | 2 | Glass-cutter ..... | 1 |
| Lapidary ..... | 1 | Hook and Eye-maker ..... | 1 |
| Plater and Silversmith ... | 2 | *Steel-toy-maker* ..... | 1 |
| Coach-harness-makers ..... | 2 | No occupation ..... | 10 |

I shall not make any observations on the preceding tables, as they are, I trust, given sufficiently in detail to preclude the necessity of any explanatory remarks; and I shall conclude the present report with a brief notice of a few cases, which occurred in some of the diseases not comprised in those tables.

*Fungus medullaris.*—One of these two cases was a young married woman, about twenty-eight years of age, a button-maker. In the latter part of the

month of February, 1835, whilst walking in her house, she was suddenly seized with paralysis, complete loss of sensation and of the power of voluntary motion, in all the parts of the body below the middle of the chest. A few days previously she had complained of being slightly indisposed. For some time, repeated and careful examinations of the spinal column were made without any disease being detected there; and the case was treated by bleeding and blistering near the spine, the internal administration of mercury, and afterwards by the external application of strychnine, but without the slightest advantage. From the commencement of the paralysis there was involuntary discharge of the fœces, and it was necessary to use the catheter daily. After the lapse of some weeks a swelling became visible on the left side of the spine between the scapulæ, and this tumour, which was tense and slightly elastic under pressure, steadily, though slowly, increased in size till it became rather larger than a man's fist. It was suspected to be a mass of the medullary sarcoma, and it was not, therefore, opened. Extensive sores formed on the nates and back, but from them the patient never experienced the slightest uneasiness. She died on the 11th of June, and the spinal column was opened on the following day. The tumour was found to be of the kind suspected. It extended between the spinous processes to the right side of the spine, and passed into the spinal canal through an aperture made by the partial destruction of the posterior portion of two of the dorsal vertebræ, at which part the medulla spinalis was disorganized, being converted into a thin cream-like substance.

The other case of this disease occurred in a boy, eleven years of age. In this case the disease appeared to have had its origin in the left maxillary antrum; it produced great deformity of the face, and, early in its course, it forced its way into the mouth through the left side of the palate.

*Hernia.*—The fatal case of hernia occurred in a woman, sixty-three years of age. No operation was performed, or even recommended, to relieve the strangulated intestine. The following are the details of the case. I saw the patient early in the afternoon of the 15th of December, 1835, when she complained of sickness and pain in the bowels, and said that her bowels had not been opened for four days. On examination, I found that she had a ventral hernia immediately above the umbilicus, and almost as large as a young infant's head; it was somewhat tender when pressed, as was also the abdomen generally. Moderately firm pressure reduced the hernia to nearly half its size, and a loud gurgling noise was heard whilst the pressure was being made, and likewise after it was discontinued, when the tumour rapidly regained its former magnitude. The hernia first appeared about ten years since, and has always been irreducible. The patient suffers much from asthma, to which she has been subject for many years. So far as it could be ascertained from her own account, she had several times suffered from attacks similar to the present one, but had always been relieved by purgative medicine. I ordered her to take some calomel and cathartic extract, and to have some clysters given to her; and in the evening I saw the patient with my colleague,

Mr. Baynham. She had vomited the aperient pills, but had retained on the stomach some castor oil; and the clysters had apparently merely washed out the contents of the rectum. The hernia remained in the same state, but the tenderness there, and in the bowels generally, appeared to be rather greater. The pulse was very slow and feeble. She now complained that she had lost the use of the right arm, and that this loss of power had come on, suddenly, about an hour before our visit; the pulse, however, in that arm appeared to be the same as that in the left; the arm itself was quite warm, she moved it about readily, and opened and closed the fingers. As the patient was in a state of considerable prostration, and as the intestine could be easily forced from the hernial sac into the abdomen, it was determined not to operate that evening, but to continue during the night the same treatment. The next day, December 16th, I found that the hernia was larger, but without any evident increase of the tenderness there or in the belly. She had vomited frequently during the night, and the clysters had returned only slightly stained with fœces. The pulse in the left arm still continued weak and slow. I again examined the right arm, which she moved readily about: there was no pulse in any of its arteries up to the subclavian, just below the clavicle, and even there the pulsation was very feeble; the fingers and hand were cold, shrunk and livid, and the surface of the whole of the fore-arm was insensible, but she complained much of pain about the elbow when that joint was bent. As this occurrence of senile gangrene rendered the preservation of the patient's life hopeless, and as she herself was

averse to anything being done for the relief of the hernia, I did not recommend the operation either to the patient or to her relatives, but explained to them the nature of the case and its certain termination in death in a short time. I could still press the incarcerated intestine back into the abdomen, but it returned into the hernial sac immediately that I discontinued the pressure. The size of the hernia slowly but regularly increased, the tenderness there, and in the abdomen generally, became more acute, and the vomiting was almost incessant, till a few hours before death, which took place early in the afternoon of the 18th; at which time the coldness, shrunk condition, and lividity of the right arm had extended some distance above the elbow; but there was no vesication, nor any line of separation, between the dead and living parts.

The body was opened about twenty hours after death. The hand and lower part of the right arm exhibited the usual external appearances of senile gangrene. The brachial artery was very much contracted, appearing to be not larger than the radial; it contained a small clot, not adherent to its sides, which were healthy. The coats of the subclavian artery were also healthy, excepting immediately below the clavicle, where they were slightly diseased. The chest and head were not opened. The body was very fat. There were no external discolourations on the trunk, except over the hernia, which had a dirty red appearance, but this was observed during the last forty-eight hours of the patient's life. In the hernial sac there was a large mass of omentum, not diseased, and exhibiting no

signs of having been the seat of any inflammation ; it was nearly white, contained much fat, and was firmly attached to the sides, but not to the front of the sac, by old adhesions. Behind this omentum, and also in the sac, was found a large fold of small intestine, distended with air, quite black and gangrenous. A finger could be readily passed by the side of the strangulated intestine, through the neck of the sac, into the abdomen ; and the gangrenous piece of intestine was, without difficulty, pressed out of the sac into the belly. The intestine strangulated, was a piece of the jejunum, and the cause of the strangulation was a cord-like piece of omentum, about as thick as a finger, which extended from the abdomen into the hernial sac, where it was adherent. Between this cord-like piece, and a much larger mass of omentum, likewise passing into, and adherent to the sac, the fold of intestine had slipped, and been compressed. About six or seven inches of jejunum, on each side of the strangulated portion, were, like that, black and gangrenous, distended with flatus, and apparently quite entire ; but when cut open with the scissors, the whole of this part of intestine gave way like wet paper. The intestines generally were dark-coloured, and some folds of them were adherent from the soft and recently effused lymph, but this effusion was neither large nor general.

*Acute peritonitis.*—One of the cases of this disease appears to be deserving of record, chiefly, however, on account of the very unusual circumstance which produced the fatal attack of inflammation of the peritoneum. The patient, a young girl, 20 years

of age, was a prostitute of the lowest class. On Sunday, September 20, being then in labour of her first child, and in a state of great destitution, she was received into the house of an old woman, herself too poor to afford the girl much assistance, and ignorant, also, of her being in labour. In the following night the girl delivered herself of a dead child, and I accidentally saw her on the succeeding Friday, the 25th. She was then very ill with peritonitis, and I wished her to be removed into the Infirmary, to which, however, she would not consent, till about thirty hours before her death, which took place on Monday, the 28th. When I first saw her on the Friday, I questioned her about her labour, and she told me that the after-birth was expelled soon after the birth of the child; but the examination of the body after death, shewed that, on this point, she was mistaken. The body was opened about twenty hours after death. The abdomen exhibited the usual effects of severe peritonitis; but in the pelvis there was seen, attached to the uterus, a large, irregular-shaped, and dark-coloured substance. The uterus and its appendages were, therefore, carefully detached and removed from the body, when this substance was found to be the placenta, partly disorganised, and protruding through a ragged and gangrenous aperture in the fundus of the uterus. In the vicinity of this larger aperture, there were other similar holes of a smaller size, some of which had not quite penetrated through the substance of the uterus.

Newhall Street, Birmingham,
March 21, 1836.

# ARTICLE XVI.

## A REPORT OF THE OUT-PATIENTS,

ATTENDED

BY FREDERICK RYLAND, ESQ.

## AT THE BIRMINGHAM INFIRMARY,

BETWEEN THE 25TH DECEMBER, 1834, AND THE 25TH DECEMBER, 1835.

| | Qr. ending March 25. | | Qr. ending June 24. | | Qr. ending Sep. 29. | | Qr. ending Dec. 25. | | TOTAL. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. |
| Abortion | 2 | ... | 2 | ... | 2 | ... | 1 | ... | 7 | ... |
| Abscess | 8 | ... | 21 | ... | 12 | ... | 11 | ... | 52 | ... |
| Amenorrhœa | 4 | ... | 7 | ... | 1 | ... | 9 | ... | 21 | ... |
| Anasarca | 8 | 3 | 8 | 2 | 4 | 1 | 11 | 1 | 31 | 7 |
| ——— after scarlat. | ... | ... | ... | ... | 1 | ... | 9 | 2 | 10 | 2 |
| Aneurism | ... | ... | 1 | 1 | 1 | ... | 1 | 1 | 3 | 2 |
| Aphthæ | 2 | ... | 3 | ... | ... | ... | 3 | 1 | 8 | 1 |
| Apoplexy | 2 | 2 | ... | ... | ... | ... | ... | ... | 2 | 2 |
| Ascites | ... | .. | ... | ... | 2 | ... | 1 | 1 | 3 | 1 |
| Bronchitis | 59 | ... | 45 | ... | 27 | ... | 62 | 4 | 193 | 4 |
| Bronchitis, chronic | 60 | 1 | 26 | 2 | 24 | 1 | 34 | 1 | 144 | 5 |
| Bronchocele | ... | ... | 2 | ... | 1 | ... | ... | ... | 3 | ... |
| Burns | 6 | 1 | 4 | 1 | 6 | ... | 8 | ... | 24 | 2 |
| Carcinoma | ... | ... | 1 | 1 | ... | ... | ... | ... | 1 | 1 |
| Cephalalgia | 4 | .. | 4 | ... | 7 | ... | 8 | ... | 23 | ... |
| Chlorosis | 1 | ... | 3 | ... | ... | ... | ... | ... | 4 | ... |
| Cholera biliosa | 1 | ... | 1 | ... | 7 | ... | ... | ... | 9 | ... |
| Colica pictonum | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Constipation | 11 | ... | 18 | ... | 25 | ... | 7 | ... | 61 | ... |
| Convulsions (Inf.) | 1 | ... | 2 | 1 | 1 | ... | 1 | ... | 5 | 1 |
| Cutaneous diseases. | 19 | ... | 22 | ... | 15 | ... | 14 | ... | 70 | ... |
| Cynanche tonsil. | 8 | ... | 4 | ... | 10 | ... | 17 | ... | 39 | ... |
| Cynanche trachealis | ... | ... | 1 | 1 | ... | ... | 2 | ... | 3 | 1 |
| Curvature of spine. | 1 | ... | 2 | ... | ... | ... | 1 | ... | 4 | ... |
| Delirium tremens | 1 | ... | ... | ... | ... | ... | 2 | ... | 3 | ... |
| Dentition | 2 | 1 | 1 | ... | 1 | ... | 1 | ... | 5 | 1 |
| Diarrhœa | 16 | 1 | 17 | ... | 69 | 1 | 16 | 1 | 118 | 3 |
| Diseases of bones | 1 | ... | 2 | ... | ... | ... | 3 | ... | 6 | ... |
| ——— eyes | 6 | ... | 7 | ... | 4 | ... | 4 | ... | 21 | ... |
| ——— joints | 3 | ... | 1 | ... | 2 | ... | 1 | ... | 7 | ... |
| Disordered bowels | 4 | ... | 7 | ... | 8 | ... | 2 | ... | 21 | ... |
| Dysentery | 3 | ... | 4 | ... | 5 | ... | 6 | ... | 18 | ... |
| Dyspepsia | 41 | ... | 51 | ... | 46 | ... | 35 | ... | 173 | ... |
| Dysmenorrhœa | 3 | ... | ... | ... | 1 | ... | ... | ... | 4 | ... |
| Dysuria | 1 | ... | 2 | ... | 1 | ... | 3 | ... | 7 | ... |
| Epilepsy | 3 | ... | 4 | ... | 2 | ... | 2 | ... | 11 | ... |
| Epistaxis | 1 | ... | ... | ... | ... | ... | ... | ... | 1 | ... |
| Erysipelas | 1 | ... | 5 | ... | 3 | ... | 1 | ... | 10 | ... |
| Erythema | 2 | ... | 4 | ... | ... | ... | 4 | ... | 10 | ... |
| Fractures | 4 | ... | 4 | ... | 1 | ... | ... | ... | 9 | ... |
| Fungus hæmatodes | 1 | 1 | ... | ... | ... | ... | ... | ... | 1 | 1 |
| Gastritis | ... | ... | 2 | ... | 1 | ... | ... | ... | 3 | ... |
| ——— chronic | 11 | ... | 5 | ... | 6 | ... | 5 | ... | 27 | ... |
| Gonorrhœa | 12 | ... | 4 | ... | 10 | ... | 2 | ... | 28 | ... |

| | Qr. ending March 25. | | Qr. ending June 24. | | Qr. ending Sep. 29. | | Qr. ending Dec. 25. | | TOTAL. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. | CASES | DIED. |
| Gravel | 3 | ... | 4 | ... | 5 | ... | 4 | ... | 16 | ... |
| Hæmatemesis | ... | ... | 1 | ... | 1 | ... | ... | ... | 2 | ... |
| Hæmoptysis | 1 | ... | 1 | ... | 1 | ... | ... | ... | 3 | ... |
| Hæmorrhoids | 2 | ... | 3 | ... | 2 | ... | 2 | ... | 9 | ... |
| Hemicrania | 6 | ... | 6 | ... | 4 | ... | 6 | ... | 22 | ... |
| Hepatitis chronic | 2 | ... | 1 | ... | ... | ... | ... | ... | 3 | ... |
| Hernia | 5 | ... | 5 | ... | 2 | ... | 5 | ... | 17 | ... |
| Hernia humoralis | 2 | ... | 1 | ... | 1 | ... | ... | ... | 4 | ... |
| Herpes Zoster | 1 | ... | ... | ... | 1 | ... | 1 | ... | 3 | ... |
| Hydrocephalus | 1 | 1 | ... | ... | ... | ... | 1 | 1 | 2 | 2 |
| ..... chr. | 1 | ... | 1 | ... | ... | ... | 1 | ... | 3 | ... |
| Hypertr. of heart | 1 | ... | 3 | ... | 1 | ... | 1 | ... | 6 | ... |
| Hysteria | 3 | ... | 1 | ... | 1 | ... | 2 | ... | 7 | ... |
| Icterus | 1 | ... | 1 | ... | ... | ... | 1 | ... | 3 | ... |
| Laryngitis, chronic | 1 | ... | 2 | ... | 2 | ... | ... | ... | 5 | ... |
| Leucorrhœa | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Lumbago | 3 | ... | 8 | ... | 10 | ... | 8 | ... | 29 | ... |
| Mania | 3 | ... | 5 | ... | 3 | ... | 2 | 1 | 13 | 1 |
| Marasmus | 2 | 1 | 3 | 1 | 1 | ... | ... | ... | 6 | 2 |
| Menorrhagia | 8 | ... | 7 | ... | 3 | ... | 1 | ... | 19 | ... |
| Paralysis | 1 | 1 | 4 | 1 | 5 | ... | 1 | 1 | 11 | 3 |
| Parotiditis | ... | ... | 2 | ... | 1 | ... | 1 | ... | 4 | ... |
| Pericarditis | 1 | ... | ... | ... | ... | ... | 1 | ... | 2 | ... |
| Peritonitis | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... |
| ..... chronic | 2 | ... | ... | ... | 1 | ... | 1 | ... | 4 | ... |
| ..... puerperal | ... | ... | 1 | ... | ... | ... | 1 | ... | 2 | ... |
| Pertussis | 1 | ... | 2 | ... | 2 | ... | 8 | ... | 11 | ... |
| Phlegmasia dolens | 1 | ... | 2 | ... | ... | ... | ... | ... | 3 | ... |
| Phlogosis | 13 | ... | 15 | ... | 15 | ... | 14 | .. | 57 | ... |
| Phthisis | 6 | 4 | 7 | 5 | 6 | 6 | 7 | 5 | 26 | 20 |
| Pleuritis | 3 | ... | 5 | ... | 4 | ... | 10 | ... | 22 | ... |
| Pleurodynia | 12 | ... | 11 | ... | 5 | ... | 12 | ... | 40 | ... |
| Pneumonia | 1 | ... | 2 | 1 | ... | ... | ... | ... | 3 | 1 |
| Podagra | 2 | ... | 2 | ... | 1 | ... | 1 | ... | 6 | ... |
| Prolapsus ani | ... | ... | ... | ... | ... | ... | 2 | ... | 2 | ... |
| ..... uteri | ... | ... | 1 | ... | ... | ... | ... | ... | 1 | ... |
| Rheumatism, ac. | 36 | ... | 25 | ... | 21 | 1 | 18 | ... | 100 | 1 |
| ..... chr. | 4 | ... | 5 | ... | 7 | ... | 3 | 1 | 19 | 1 |
| Rubeola | ... | ... | ... | ... | ... | ... | 1 | ... | 1 | ... |
| Scarlatina | 5 | ... | 7 | 1 | 35 | 5 | 59 | 14 | 106 | 20 |
| Scrofula | 5 | ... | 7 | ... | 2 | ... | 1 | ... | 15 | ... |
| Stricture of urethra | ... | ... | ... | ... | 2 | ... | 1 | ... | 3 | ... |
| Synochus | 38 | 2 | 28 | 2 | 46 | ... | 29 | ... | 141 | 4 |
| Syphilis | 7 | ... | 2 | ... | 4 | ... | 4 | ... | 17 | ... |
| Typhus | ... | ... | ... | ... | 1 | ... | 2 | 2 | 3 | 2 |
| Ulcers | 15 | ... | 11 | ... | 10 | ... | 11 | ... | 47 | ... |
| Urine, retention of | 1 | 1 | ... | ... | ... | ... | 1 | ... | 2 | 1 |
| Urticaria | 4 | ... | 4 | ... | 3 | ... | 3 | ... | 14 | ... |
| Varicella | 1 | ... | 2 | ... | ... | ... | 2 | ... | 5 | ... |
| Varices | 4 | ... | ... | ... | 2 | ... | 1 | ... | 7 | ... |
| Variola | ... | ... | ... | ... | 2 | ... | 7 | 3 | 9 | 3 |
| ..... after vaccin. | ... | ... | ... | ... | ... | ... | 2 | ... | 2 | ... |
| Worms, intestinal | 8 | ... | 6 | ... | ... | ... | 5 | ... | 19 | ... |
| Wounds, strains, contusions, &c. | 29 | ... | 24 | ... | 20 | ... | 18 | ... | 91 | ... |
| Total | 559 | 20 | 525 | 20 | 539 | 15 | 550 | 40 | 2173 | 95 |

Of the 2173 cases, 860 were males, and the remaining 1313 females; of the latter 576 were married, and 141 widows.

The deaths, during the year, were 95 in number, 44 of which were males, and 51 females. The relative mortality of the two sexes, at different ages, is exhibited in the following table :—

| | Under 1 year. | Between 1 and 5. | Between 5 and 10. | Between 10 and 20. | Between 20 and 30. | Between 30 and 40. | Between 40 and 50. | Between 50 and 60. | Between 60 and 70. | Between 70 and 80. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Males ..... | 2 | 15 | 3 | 1 | 3 | 3 | 3 | 10 | 2 | 2 | 44 |
| Females ..... | 4 | 12 | 9 | 0 | 6 | 5 | 4 | 2 | 4 | 5 | 51 |
| Both sexes ..... | 6 | 27 | 12 | 1 | 9 | 8 | 7 | 12 | 6 | 7 | 95 |

The deaths during the first ten years, amount to 45, or nearly one-half of the total number of deaths; of these 45, 22 were caused by scarlatina and the subsequent anasarca, 4 by bronchitis, 3 by small-pox, 2 by hydrocephalus, 3 by synochus, 2 by diarrhœa, and the rest by more chronic diseases.

The succeeding table exhibits the age and sex of 858 persons, affected with eight diseases of the most frequent occurrence.

| | Under 10 years. | | Between 10 and 20. | | Between 20 and 30. | | Between 30 and 40. | | Between 40 and 50. | | Between 50 and 60. | | Above 60. | | TOTAL. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Males. | Fem. | Males. | Fem. | Males. | Fem. | Males. | Fem. | Males. | Fem. | Males. | Fem. | Males. | Fem. | Males. | Fem. |
| Bronchitis ..... | 37 | 33 | 2 | 11 | 9 | 20 | 9 | 23 | 11 | 20 | 2 | 8 | 2 | 6 | 72 | 121 |
| Chronic bronchitis.. | 1 | 1 | 3 | 1 | 4 | 6 | 5 | 11 | 13 | 22 | 15 | 14 | 18 | 30 | 59 | 85 |
| Constipation ..... | 1 | ... | 3 | 9 | 3 | 14 | 2 | 8 | 2 | 10 | 4 | 2 | 1 | 2 | 16 | 45 |
| Dyspepsia ..... | ... | ... | 3 | 11 | 5 | 40 | 10 | 31 | 2 | 29 | 2 | 20 | 4 | 16 | 26 | 147 |
| Chronic gastritis ... | ... | ... | 1 | 8 | 1 | 8 | ... | 3 | 1 | 4 | ... | 1 | ... | ... | 3 | 24 |
| Rheumatism ..... | 3 | ... | 8 | 12 | 8 | 16 | 12 | 9 | 8 | 10 | 3 | 8 | 2 | 2 | 44 | 57 |
| Chron. rheumatism. | ... | ... | 2 | ... | ... | ... | ... | 2 | 1 | 2 | ... | 2 | 4 | 6 | 7 | 12 |
| Synochus ..... | 36 | 27 | 25 | 21 | 6 | 5 | 3 | 5 | 3 | 6 | 1 | 1 | ... | 2 | 74 | 67 |
| | 78 | 61 | 47 | 73 | 36 | 109 | 41 | 92 | 41 | 103 | 27 | 56 | 31 | 64 | 301 | 558 |

The preceding table exhibits results of the same kind as those afforded by a similar table which I presented last year. In the first two years of life, the patients of both sexes are nearly equal in number, as far as we may judge from an analysis of eight of the most prevalent diseases; in the next two years, the females exceed the males by one-third; and in all the after periods of life, the preponderance of the female over the male-patients, is still greater.

Amongst the 59 males suffering from chronic bronchitis, there were 9 gun-makers, 8 labourers, 5 iron-founders, 4 brass-founders, 3 flax-dressers, 4 button-makers, 3 workers in britannia-metal, 2 carpenters, 2 wood-turners, 2 shoe-makers, and 11 others who worked at different trades, chiefly of a sedentary nature. Of the 85 females, 32 only had any particular occupation; 4 of them were engaged in sedentary employments, 4 were shop-keepers, 3 japanners, 3 pearl-button-makers, 3 metal-button-makers, 3 workers in britannia-metal, 2 sempstresses, 2 servants, &c.

Of the male-patients ill with dyspepsia and chronic gastritis, 4 were brass-founders, 4 labourers, 4 pearl-button-makers, 3 shoe-makers, 3 iron-founders, &c. Of the females, 20 were sempstresses, 20 were engaged in other sedentary occupations, 16 were chair-women and domestic servants, 8 were gilt and steel-toy-makers, 6 washerwomen, 5 japanners, 5 lackerers, 6 gun-barrel-filers, 6 button-makers, &c.

Amongst the males labouring under rheumatism, there were 13 labourers, 4 black-smiths, 7 iron-founders, 3 shoe-makers, and 3 pearl-button-makers. Of the females, 5 were washerwomen, 6 domestic

servants, 5 sempstresses, 3 had sedentary employments, 2 were glass-polishers, 5 japanners, and 2 button-makers.

Of 38 tailors, shoe-makers, and sempstresses, 23 were affected with dyspepsia, 9 with rheumatism, and 6 with chronic bronchitis.

Of 31 persons engaged in making hooks and eyes, carding buttons, sticking pins, and in other sedentary occupations, 20 were affected with dyspepsia, 5 with rheumatism, and 6 with chronic bronchitis.

Of 38 domestic servants, chairwomen, and washerwomen, all of whom were females, 23 were suffering from dyspepsia and chronic gastritis, 11 from rheumatism, and 4 from chronic bronchitis.

Of 36 labourers and black-smiths, 8 were affected with dyspepsia, 18 with rheumatism, and 10 with chronic bronchitis.

Of 32 makers of metal-buttons, gilt and steel toys, nails and screws, 14 were affected with dyspepsia, 9 with rheumatism, and 9 with chronic bronchitis.

Of 30 gun-finishers and brass-founders, who generally work in covered shops, 14 were suffering from dyspepsia, 3 from rheumatism, and 13 from chronic bronchitis. Of 19 iron-founders, who, by the nature of their occupation, are much exposed to variations of temperature, 5 were affected with dyspepsia, 8 with rheumatism, and 6 with chronic bronchitis.

Of 16 japanners and lackerers, all of whom were females, 10 suffered from dyspepsia, 2 from rheumatism, and 4 from chronic bronchitis.

Of 15 pearl-button-makers, 7 were affected with dyspepsia, 4 with rheumatism, and 4 with chronic bronchitis.

Although it is impossible accurately to arrange the preceding facts in a tabular form, we may, with advantage, divide the subjects of the three diseases into two classes, viz. into those who, by their occupations, are much exposed to changes of temperature, and into those who are sheltered from atmospheric variations, by working in covered rooms.

| | Dyspepsia. | Rheumatism. | Chronic Bronchitis. | Total. |
|---|---|---|---|---|
| First class of cases ... | 26 | 33 | 18 | 77 |
| Second ditto ..... | 106 | 39 | 44 | 189 |

I shall not attempt to draw any inferences with regard to the effect of occupation in inducing certain diseases from the preceding statements; they are obviously too few and too unimportant to justify any general conclusions, but they may be useful to others, who have more extended opportunities of carrying on inquiries relative to this branch of medical statistics.

One of the most remarkable features in the present tabular report of diseases, as contrasted with that of last year, is the number and mortality of the scarlatina cases. Scarlatina prevailed very much in Birmingham during the spring, but it scarcely reached the district of the town that I attend, till the month of August. During this and the following month, the mortality was not very great, but as the winter season advanced, the affection of the

throat became excessively severe, and the number of deaths increased rapidly. Towards the beginning of December the force of the epidemic was expended, the cases decreased in number, and the mortality diminished considerably. These circumstances are exhibited in the following table:

| | | | |
|---|---|---|---|
| In August, the cases were in number | 16, | the deaths 4, | or 1-4th. |
| — September, | 19, | 1, | — 1-19th. |
| — October, | 25, | 5, | — 1-5th. |
| — November | 21, | 7, | — 1-3rd. |
| — December | 12, | 2, | — 1-6th. |

Three of the scarlatina patients were between 20 and 30 years old, 14 were between 10 and 20, and the remainder were under 10 years of age. All the fatal cases occurred in children under the age of 10 years.

*Aneurism.*—Three cases of this disease are recorded, and in all of them the thoracic aorta was the seat of the complaint.

Mrs. Newey, æt. 30, washerwoman, was seized with spitting of blood, on the 20th of May, 1835. She coughed up about half-a-pint, but was not prevented, by this occurrence, from going about her work. The hæmoptysis was renewed suddenly on the afternoon of the 22nd, and death took place instantaneously.

*Post-mortem examination.*—The right pleural cavity contained six pints of blood. The lower lobe of the right lung was filled with blood, effused into its reticular texture, and this part of the lung was in contact with an aneurism of the aorta, which had burst, probably, first into the lung on the 20th, and then into the pleura on the 22nd. The aneurismal

tumour, which was about as large as the closed fist, embraced the upper part of the abdominal, and the lower part of the thoracic aorta: it contained very little coagulum, and within it, the bodies of two or three vertebræ could be felt, bare and partially absorbed. The cæliac and superior mesenteric arteries were given off from the aneurism.

Wm. Fieldhouse, æt. 52, an iron-founder by trade, in consequence of sudden alarm, and agitation of mind, was seized with most distressing dyspnœa, and a sense of suffocation, which continued for several hours. On examination, I discovered two aneurismal tumours in the situation of the upper third of the sternum, and another just above the right clavicle, by the external margin of the mastoid muscle. The pulsation in all the tumours was strong; they were firm, yet compressible, and not painful to the touch, The man had continued working at his trade till the day before he was seized with the suffocative access. He died three months after I first saw him, with symptoms of suffocation, which lasted for six hours previous to death.

*Post-mortem examination.*—There was a large aneurism of the ascending aorta and the arch; it projected forwards and upwards; its anterior wall was formed partly by the sternum, the upper bone of which was absorbed to a considerable extent, and partly by the cartilages of the superior ribs of the right side. The tumour extended upwards behind the right clavicle, and the arteria innominata was greatly flattened, and its area diminished by the pressure from below, of this part of the aneurism. The sac was entire, it was filled with coagulated

blood, and at its lower and front part, there was the usual laminated coagulum. The lungs were greatly congested with venous blood.

Death was probably occasioned in this case by spasm of the glottis, or of the air-tubes, caused by the pressure of the aneurism upon the trachea. The lips and nails were blue, the countenance livid, and the lungs much congested, all of which signs indicated death by suffocation; and which, as there was no organic change in the air-tube, cannot be accounted for, without the intervention of spasm.

The third case of aneurism occurred in a young woman, 23 years of age, She subsequently became a patient of Dr. Ward, at the Dispensary, and is since dead.

*Fungus hæmatodes.*—About the middle of February, 1835, Joseph Lee, æt. 23, shoe-maker, became a patient at the Town Infirmary, on account of a large tumour over the right scapula, extending from the upper margin of this bone, to within an inch of its inferior angle, occupying its whole breadth, and projecting towards the dorsal spine, beyond the line of the base of the scapula. It had a soft elastic feel, without fluctuation, and was not sore when handled. He had, occasionally, shooting pains in the tumour, which were worse at night. A lancet was thrust into the softest and most projecting part, nothing howevever escaped, but a small quantity of blood. He had never had any blow or injury of any kind in that situation, but for two years there had been frequent attacks of pain in the shoulder, and about ten months ago, he first perceived a swelling on the upper part of the scapula,

which, as his wife expressed it, had gradually rolled down the blade-bone. In the middle of March, the tumour, measured by a string passed under the axilla, and over the most prominent part of the disease, had a circumference of two feet, six inches and a half. At this time he occasionally spit blood, but never in any alarming quantity. The tumour continued rapidly to increase in size, and to become more tense and painful, and the patient died on the 30th of June, apparently from suffering and exhaustion. For a month previous to the fatal event, the pain in the shoulder was so great, that five grains of acetate of morphia, and ten grains of extract of conium, scarcely procured him any rest; another most distressing symptom was, a continual cough, attended with pains in the chest, and never ceasing hæmoptysis. At the time of his death, the tumour measured twenty-nine inches in circumference.

*Post-mortem examination.*—The skin was dissected from about two-thirds of the tumour, and the hæmatoid disease was observed to be surrounded by a strong layer of condensed muscle, tendon, and cellular tissue, which was deficient only at the place where the puncture had formerly been made. The immense tumour was composed of white brain-like substance, mixed up with a considerable quantity of extravasated blood, and a few serous cysts. Its interior was divided by imperfect cellular septa, into irregular portions. The lower end only of the scapula was examined; portions of it were found broken off in the tumour, with their posterior face, which was in contact with the hæmatoid surface,

carious and partially absorbed. The muscle still adhered to the other surface.

The lungs were the only internal organs affected by the disease. Both lungs contained, throughout their whole structure, an innumerable quantity of soft, white, cerebriform deposits, varying in size, but generally about as large as horse-beans. There were many pendulous tumours of the same character all round the circumference of the lungs, beneath the pleura, which membrane had in no instance given way. These tumours were flattened where they were in contact with the parietes of the chest; and larger and rounder where the yielding diaphragm allowed them greater liberty.

*Paralysis.*—The deaths from paralysis were three in number; they were all women, two of whom were upwards of 60 years of age. The other was only 30, and her case, in other respects, is worthy of a slight notice.

Mrs. Jones, æt. 30, married, three months previous to her death, which happened in April, 1835, was suddenly seized with paralysis of the left side, unattended by any loss of sensation; she had no pain in the head, her bowels were regular and her appetite good. Six weeks after the attack, she became unable to retain her urine or fæces, her general health failed, the nates sloughed, and she died. Towards the close of life, she had a degree of morbid sensibility in the affected side, insomuch that she could not bear the slightest touch, and the left fore-arm became permanently bent on the arm, and could not be again straightened.

*Post-mortem examination.*—In the medullary sub-

stance of the right hemisphere of the brain, just above the ventricle, several cavities were found, containing a liquid of the appearance of milk; the cells were rather flattened horizontally, of the size of peas, having no communication with each other, or with the ventricle; they were not lined by any cyst, and the surrounding brain was harder than the healthy parts of the organ. Except that there was no change of colour, the appearance of a slice of the brain in this situation, much resembled that of a piece of worm-eaten wood, or porous cheese. The disease extended from just above the ventricle to the cortical part of the brain, which, however, was quite healthy.

FRED. RYLAND.

Birmingham,
29th February, 1836.

## ARTICLE XVII.

# A REPORT OF THE CASES,

ATTENDED

BY R. MIDDLEMORE, ESQ.

AT THE BIRMINGHAM EYE INFIRMARY,

From June the 24th, to December the 31st, 1835.

Simple acute conjunctivitis, 29. Chronic conjunctivitis, 17. Acute conjunctivitis, with pustules on the conjunctiva, 17. Acute conjunctivitis, with pustule or ulcer of the cornea, 25. Acute conjunctivitis, with puriform secretion, 38. Purulent conjunctivitis of newly-born infants, 9. Irritable conjunctivitis, 13. Strumous conjunctivitis, 15. Effusion of various kinds beneath the conjunctiva, 5. Corneitis, 9. Vascularity of the cornea, 6. Opacity of the cornea, 31. Staphyloma of the cornea, 4. Impaction of foreign bodies in the cornea, 8. Sclerotitis, 6. Ulceration of the sclerotica, 2. Fungous growth from the sclerotica, 1. Simple acute iritis, with or without ulcer or opacity of the cornea, onyx, or hypopium, 18. Chronic iritis, 3. Syphilitic iritis, 2. Strumous iritis, 2. Arthritic iritis, 2. Prolapse of the iris, 5. Fungus of the

iris, 1. Cataract, 7. Dislocation of the lens, 1. Choroiditis, 3. Varicose ophthalmia, 2. Retinitis, 3. Glaucoma, 3. Suppuration of the eye-ball, 2. Atrophy of the eye-ball, 6. Fungoid and various anomalous tumours of the eye-ball, 2 Amaurosis of various kinds and degrees, 39. Diseases of the lachrymal apparatus, 15. Strabismus, 3. Ophthalmia tarsi, 23. Lippitudo, 4. Hordeolum, 1. Entropium, 2. Inflammation of the eye-lids, 3. Ptosis, 3. Ulceration of the eye-lids of various kinds, 2. Tumours in the eye-lids, 9. Wounds and other injuries of the eye-ball and its appendages, 13.

The number of patients, during the last and preceding year, is slightly diminished, chiefly in consequence of the establishment of one or two Ophthalmic Institutions, in the neighbourhood of Birmingham. It appears to me that it would be a good thing, if one or more wards in all the large Hospitals, were set apart for the reception of persons afflicted with the more important diseases and accidents, to which the organ of vision is liable; and, under proper regulations, those cases which it was not deemed necessary to receive within the establishment, might be attended as often as necessary as *out-patients,* By this arrangement, an important class of diseases would not be so much withdrawn from the attention of medical practitioners as at present, and students would have the great advantage of observing the diseases of the eye, and of noticing other diseases, at one and the same establishment. I have heard medical students complain, that after having paid for attending the surgical

practice of a large Hospital, they have seen no "eye cases" at all; or, at best, an insufficient number of them, to furnish the requisite experience in the management of that class of maladies. The plan I have suggested would prevent this inconvenience, or, at all events, lessen the evil, and leave, at the same time, a sufficient number of applicants to render necessary the continuance of Institutions set apart for the sole purpose of relieving poor persons, suffering from diseases of the organ of vision.

Since the publication of my last Report, the Governors of the Birmingham Eye Infirmary have considered it desirable to effect a change in its medical department, in consequence of which, I am only enabled to furnish a list of, with remarks on, the diseases of those patients whose cases I have myself treated since the 24th of last June, the period soon after which the change I have mentioned, was accomplished. I shall relate some cases which appear to me to possess certain points of interest, and append to them a few observations, which I trust will be considered useful.

### SYPHILITIC IRITIS.

John Thorne, æt. 29, had several small chancres, about the middle of July, which healed in five weeks without the aid of medicine. Towards the end of August, a copper-coloured papular eruption appeared all over the body, and, on the 25th of the same month, he complained of a little weakness of the right eye, which was relieved by bathing the part with goulard water. In the course of the following week the left eye (the right had been col-

lapsed for years) became seriously affected. He says that at that time it felt as though something was in it, that it watered, that he could scarcely bear the light, that it was painful, and that the pain was particularly distressing about three o'clock in the morning; at which time, indeed, it occurred with almost precise exactness, and always with great severity. He was, at this period, taking medicine from the prescription of Dr. Roberts, whose absence from Birmingham caused the patient to apply to me.

*State of the eye when I first saw him, on the 23rd of September.*—There is a dense zone of dark red vessels around the margin of the cornea; this zone is not, however, equally and uniformly dense throughout its entire extent. A small prominence may be observed just behind the corneo-sclerotic junction, at its upper and outer part, as though the corpus ciliare were slightly enlarged. To this prominent part a great many vessels of considerable magnitude pass deep into the sclerotic texture. The cornea is very cloudy, and the humours of the eye turbid. The iris, which is naturally of a dark cŏlour, has an exceedingly dull brown appearance. The pupil is fixed, puckered, contracted, and drawn upwards and inwards. A large globule of lymph, of a reddish brown appearance, is situated quite at the pupillary margin, and appears to be covered by the serous membrane of the iris. At the apex of this globule there is a yellow point, just as there is at the commencement of an ordinary suppuration beneath the skin, and partly surrounding it there is a dark-coloured *streak*, exhibiting the appearance of a small stringy clot of blood. There is a good

deal of superficial redness of the eye; and all the enlarged sclerotic and conjunctival vessels have a reddish brown, a sort of brick-dust, tint. He complained of great pain in the eye, in and around the orbit, at the side of the nose, and on the cheek bone; and this pain increased, as I have explained, with frightful severity about three o'clock every morning. There was a good deal of lachrymation, and some intolerance of light, and vision was very seriously affected.

*Treatment.*—In addition to the regulation of the diet, excluding the eye from light, the application of belladonna to the forehead, and various mild fomentations to the eye, I prescribed for him a grain and a half of calomel with three grains of Dover's powder, to be taken every six hours, with the effect of restoring to him a very useful degree of vision.

*Present state of the eye.*—I do not intend to lengthen the details of this case by explaining the mode in which the inflammation and its effects and concomitants very gradually disappeared, but I am desirous of stating that the eye is not perfect, and, moreover, that when symptoms have been allowed to proceed to the extent described in this case, it very rarely happens that any treatment will have the effect of preventing slight impairment of vision with some manifest defect of the eye. In the present case there is a very trivial haziness of the cornea, with a contracted and irregular, peculiarly festooned, appearance of the pupil. The pupillary margin is thickened, and is no longer fine, delicate, and definite; and the corneal aspect of the iris is rough, uneven, and slightly pushed forward.

*Mode in which the large globule of lymph disappeared.*—I have elsewhere represented* that, in the disease termed syphilitic iritis, the inflammation commences in the true iritic texture, that texture which is covered by the membrane of the aqueous humour; and I have further noticed that the globular masses which usually occur in the progress of the malady, and which are not composed of pus in its ordinary state, or of common lymph, are situated *within* this texture, and are not usually deposited *upon* the serous surface of the iris: the present case furnished me with an opportunity of verifying, as I conceive, this opinion. I observed that, as soon as the mercury began to affect the mouth, and the inflammation was somewhat subsiding, the large globule situated towards the pupillary border appeared to shrink; in a few days it had a sort of appearance like that of large portions of cataract about nine days after they have been forced into the anterior chamber. This appearance at first disposed me to believe that the globule of puro-lymphatic matter had been placed *upon* the serous membrane of the iris; but a close inspection of the part assured me that this was an error, for, on the most careful and scrutinizing investigation, I could perceive no breach of surface, but, at one or two points, there was a cloudy film which, I am satisfied, was the serous covering of the iris, which had not closely applied itself to the receding matter—to the surface of the morbid secretion now in course of absorption. As the globule disappeared the serous membrane was not absorbed, and did not accurately adapt itself to

* *A Treatise on the Diseases of the Eye,* vol. 1, pp. 616-7.

the part it formerly covered, but lay in a series of folds, so as to give the puckered appearance I have previously stated that the part assumed. The consistence of the matter deposited during the syphilitic inflammation of the iris is not, usually, sufficient to enable it to cling to any surface without being supported; it has neither tenacity nor consistence sufficient for this, so that it is only by supposing that it is placed *beneath* the serous membrane of the iris, that we can account for its accumulation to the extent we occasionally notice. Sometimes, however, a thick reddish-coloured pus is deposited at an early stage of syphilitic iritis, and falls to the bottom of the anterior chamber, as in ordinary hypopium. When the globules of lymph (?) attached to the iris are permitted to become very large, they sometimes burst their serous covering, and discharge a part of their contents into the anterior chamber, which is then seen to be a somewhat consistent fluid, mixed, perhaps, with shreds of lymphatic matter and streaks of blood, whilst the cavity whence the matter is discharged is observed to be lined with a ragged flocculent deposition of sufficient consistence and tenacity to adhere, more or less completely, to the part by which it was secreted. It is in this state of things that hæmorrhage will sometimes take place, and fill the chamber of the eye with blood, forming the hypoæma of authors. The small prominence noticed immediately behind the corneo-sclerotic junction at an early stage of the disease, and which appeared to be owing to a partial increase in the size of the ciliary body, did not altogether disappear, although it became very much diminished. It would

seem as though it occasioned a trivial attenuation of the sclerotic texture, which afterwards remained, and presented the appearance of a minute staphyloma. I have frequently noticed the circumstance to which I have just referred, but have had no opportunity of proving, by *post-mortem* examination, the accuracy of the opinion I have given respecting its cause and nature.

### CONGENITAL CATARACT.

George Robert Elwell, æt. 25, has suffered from incomplete congenital cataract, a cloudiness, not a dense opacity of the lens, until about two months ago, when the malady became perfectly matured. I performed the posterior operation of solution upon each of the eyes, in the manner explained in my former reports, but it was necessary to repeat it three times, before the disease was removed, as far as it was capable of being removed, by the needle operation.

*State of the right eye after the operation.*—Quite perfect in appearance, so that it is impossible to tell that it has been operated upon at all. Sight very good, when assisted by proper double convex glasses.

*State of the left eye.*—A portion of capsule still remains, and obscures about half the pupil. This portion of capsule, I fruitlessly attempted to divide or depress; the point of the needle would readily pass through its texture, but it was so opaque, thick, and inelastic, that the aperture was scarcely perceptible, and there was no large opening formed by the retraction of the part. If the flat side of the

needle was pressed upon the capsule, it might be urged backwards, when it dragged the iris with it, so as to make it of a funnel shape, (the point of the funnel being directed towards the retina,) but it could be neither torn nor divided: the operation, therefore, communicated no benefit to my patient. As, however, he could see *tolerably* well with the left eye, and *very* well with the right, I did not think it prudent to remove the opaque capsule, by making an opening in the cornea, merely for the purpose of giving him a very little additional vision, and perhaps improving his personal appearance.

*Remarks.*—It is probable that the tough portion of capsule which remained in the left eye, might not have continued, if I had operated in a more careful manner in the first instance. In fact, I am satisfied that unless the anterior capsule be freely divided in the first operation, it may not retract, or disappear, although the lens it contains become absorbed; and it will then remain, or be liable to remain, as a dense opaque membrane, much disposed to acquire adhesions to the iris, which it is, as nearly as may be, impossible to separate. It appears to me, that the remark I have just made, is worthy the attention of young surgeons who do not desire to gain experience merely by the avoidance of errors they have once committed. In the case just related, I observed that the eye-ball was properly formed, that it had not acquired a rolling unsteady motion, and that its muscles were not liable to irregular and spasmodic movements, circumstances which are very generally present in examples of perfect and mature congenital cataract; and these

things appear to me, to be explained by the original incomplete nature of the cataractous disease. In many cases of congenital cataract, it will be found that, in addition to the circumstances just mentioned, as being associated with the eye and its appendages, some other congenital defect is present, either in respect of the physical development, or the mental manifestation of the subjects of the malady. It may be further remarked, that the present case affords additional evidence, that if small clear wounds of the capsule do not actually unite, still the capsule does not always retract when punctured, or slightly lacerated, or divided in a trivial degree, to the extent which has been generally supposed.

### OPERATION FOR ARTIFICIAL PUPIL.

Elizabeth Sutton, æt. 37, residing at Lichfield, has had cataract in each eye, for which she has undergone some of the varieties of the needle operation, usually performed for the cure of that disease. The operations (for she says several have been performed,) have not, however, proved successful.

*Right eye.*—Reduced to about half its size, the pupil is large, and nearly filled by an opaque portion of capsule. Of course the sight of this eye is wholly lost.

*Left eye.*—Eye-ball of its usual size and firmness, and free from inflammation. The iris is natural in colour; the pupil is drawn together at its centre, except at a mere pin-hole aperture, through which an opaque substance can be seen.

*Operation.*—Having the patient in a recumbent position, I made a small section at the temporal side

of the cornea, with Beer's knife; through this opening I introduced a small hook, with which I drew forward a portion of the iris, and excised it with the scissors. The enlarged pupil was then found to be partly filled with a portion of lens and capsule, (cataracta aggregata) which had not been dissolved by the previous operations; part of this opaque matter I was enabled to remove, but the remainder I failed to extract. The pupil is, however, a very good one, and the patient possesses, at the present time, a very useful degree of vision.

I do not detail the after treatment, for, in fact, there was little to be done, except to keep the patient on low diet, to confine her to a dark apartment, and to administer an occasional dose of aperient medicine. It will be remarked, that in this mode of performing the operation, no important parts are injured, the corneal incision is small and readily unites, and very little inflammation is excited. The operation is, moreover, so simple, that it may be performed by any surgeon of ordinary skill and tact, and its result is very generally successful; unless, indeed, more serious organic changes have occurred, or more extensive combinations of disease exist, than I have represented to have been present, in the instance just related.

I have detailed the particulars of this case, partly with a view of inducing my neighbouring professional brethren to undertake operations of this nature more frequently than they are accustomed to do, for I have had an opportunity of observing, that there is a strange reluctance on the part of many surgeons, to operate for artificial pupil, for, as far as

I can learn, no sufficient reason. Had the surgeon (a gentleman of distinguished ability, and great operative dexterity,) who operated upon the eye of Mrs. Sutton in the first instance, been willing to have followed up his operation by the one now described, there is every reason to suppose that it would have been successful. I apprehend that few operations upon the eye can be more simple, or more generally satisfactory in their result, than that for artificial pupil, provided the eye-ball is of its usual size and consistence, that the colour of the iris is unchanged, that it has acquired no adhesions to the cornea, that the cornea is not opaque, and the pupillary aperture is merely closed by the adhesion of its margin, and that no part, or only a small portion of lens and capsule are placed behind the iris, or adherent to it: for if all these conditions are present, it is manifest that the circumstances producing the closure of the pupil have not, with that exception, unfitted the eye for the purposes of vision.

### VARICOSE OPHTHALMIA.

Henry Harding, æt. 50, is suffering from an incurable stage of varicose ophthalmia. He states that his eyes, and also his health, were very good, until six years ago. He has been accustomed to employ himself as a tin-plate worker. One morning he discovered that his sight was very dim, so dim that he was unable to continue his employment, and on returning from the place at which he worked to his own home, he had great difficulty in finding his way, and it appeared to him that every person he

met was spotted, "as though a quantity of mud had been thrown upon them, and afterwards dried upon their clothes;" for a short time prior to this, he had perceived that whenever he looked very much upwards or downwards, his "sight was as if a piece of black cloth had been drawn before his eyes." Almost immediately after he experienced this serious and sudden defect of sight, he applied to Mr. Wicher, of London, (where he then resided,) who thought he perceived a cataract, in an incipient state, in the left eye; he, however, directed him to apply to Mr. Alexander. This gentleman recommended some powerfully stimulating drops to be applied to the eyes, he also prescribed two belladonna (?) pills, which (I quote the patient's words,) "almost deprived him of his senses." Not being benefited by the treatment advised by Mr. Alexander, he applied to Mr. Guthrie, who also employed some stimulating drops, of a still more potent nature than those prescribed by Mr. A. Purgatives, emetics, and an occasional blister, were also employed, but without the slightest advantage; in fact, his eyes were worse when he discontinued, than they were when he commenced his attendance at Warwick Street. Soon afterwards he applied to the present Mr. Ware, who considered that his sight might be restored altogether, or in a great measure, by the continued use of blisters to the nape of the neck, and between the shoulders, which advice he carried into effect, only for a short time, but, during that period, he was certainly somewhat better. Before I saw him, he had consulted several quacks, who, under the attractive title of "oculists,' abound in most large towns.

*Present state of the eyes.—Right eye.*—Pupil much enlarged, and of a cloudy green appearance. Iris very sluggish in its movements, on being exposed to sudden variations of light. Several enlarged and extremely tortuous vessels pass from the periphery of the eye-ball, towards the cornea, as though (judging from their situation,) they were prolongations of those supplying the recti muscles. Some of these vessels pass nearly to the cornea, sending off, however, one or two branches to meet other ramifications from neighbouring vessels, so as to form pretty extensive arches, the convexities of which, are directed towards the cornea. These tubes do not ramify at all diffusely, until they approach the corneal margin; other vessels dip deeply into the sclerotica, at about a line from the cornea, to meet, as it would appear, vessels in a similarly enlarged state, within the choroid and retina.

*State of the left eye.*—The lens, of a densely opaque and yellowish appearance, is seen to be in contact with the iris; the pupil is very large, of an uneven and irregular festooned figure, and oblong in the lateral direction; and the iris is in contact with the cornea. The superficial vessels of the eye are enlarged, and varicose, and tortuous in a greater degree than I ever remember to have before seen. This opinion also accords with the experience of my esteemed friend, Mr. Bartleet, who most carefully examined the case with me. The greater part of these enlarged and tortuous tubes give off branches, just posterior to the corneal margin, so as to form a dense vascular mesh-work in that situation, leaving arches about two lines from the cornea, and

between the more considerable vessels, that eventually ramify, with great minuteness, in that situation. Nearly all the larger vessels pass from the directly upper, or lower, or lateral parts of the eye-ball, and are less tortuous and zig-zag in their route, than the smaller ones. Of course he has not, and never can have, any useful vision in this eye.

*Remarks.*—It appears to me that, in the first instance, the nature of Mr. Harding's disease was not accurately made out. I conclude, from the nature of the treatment recommended, that the disease was considered to be incipient cataract, or amaurosis from an atonic state of the retina. However, I have furnished my readers with the means of forming their own opinion upon the subject. I do not, by any means, wish to convey any unfair imputations, but the apprehension of this accusation shall not deter me from bringing under consideration a presumed error of diagnosis, which is capable of yielding much useful information. It appears to me that, had the nature of the disease been clearly ascertained in the first instance, a very different description of treatment would and should have been adopted. I conclude that the disease under which Mr. Harding laboured, was varicose ophthalmia, for the following and various other reasons:—Persons accustomed to work upon tin-plate, or to fix the eyes almost constantly upon illuminated objects, and particularly if the body is at the same time in a constrained position, are especially liable to two forms of disease, namely, an impaired state,—an atonic condition, of the retina, from over exertion; and also a slow form of inflammation of the deep-

seated textures, accompanied with a great tendency to enlargement of their vessels, attended with a gradually increasing impairment of sight, sluggish and slightly enlarged pupil, and a trivial muddiness of the humours of the eye; but not attended with much pain, intolerance of light, or visible change in the vascular relations of the eye. The treatment I adopt in all such cases, and the treatment I should have employed in the case just narrated, (presuming that it really was what I have inferred it to be,) consists in enjoining a low diet, total abstinence from work, and partial seclusion from light. I then gently affect the mouth with mercury, and continue the administration of that medicine until the sight is restored. At the same time adopting the precaution of applying a succession of blisters behind the ears and at the back of the neck.

The extent to which the vessels of the eye may become enlarged, independently of any actual increase in the volume of that organ, is very remarkable. Some years ago I removed, by especial request, an opaque lens from the eye of a gentleman, in whom there existed a varicose state of its vessels; the capsule of the lens had acquired adhesions to the surrounding parts, and, on removing it with a hook introduced beneath the corneal flap, a very unusual hæmorrhage took place—the part actually bled very copiously. The eye-ball afterwards collapsed. A few weeks ago I removed a staphylomatous projection from the eye of a girl (Hanson, residing at Alvechurch,) about thirteen years old, in the manner explained in my last report; and, on excising the necessary quantity of the most prominent part of

the morbid structure, a very free bleeding occurred, and continued for a considerable time, so that the patient could not be removed, for at least an hour, from the operating table to her bed. It was only stopped by allowing a quantity of coagulated blood to fill up the opening I had made in the front part of the eye, for, whenever I attempted to remove this clot, the blood streamed down the child's face very freely. I was requested to be present whilst a surgeon, near Birmingham, removed a very large staphyloma from the eye of a young gentleman; it was of very considerable size, of the globular variety of the disease, its walls were very thick and exceedingly vascular, as were also the lids of the same side; many tortuous vessels were scattered about its surface, and ramified around its base. I advised that only a small part of the cornea should be removed, but my friend preferred to take it away after the "olden fashion," and, as I suspected, the part bled so freely as *only not* to alarm us. It appears that the vessels of an eye-ball so diseased have not the same means of contracting as in other situations, they have, if I may be permitted the expression, no texture to retire within, and in this manner it results that they continue to bleed, after their division, for so long a period; the central artery of the retina appears to be enlarged in such cases, and to transmit an unusually great quantity of blood to the vessels which it supplies.

### CHRONIC INFLAMMATION OF THE LACHRYMAL GLAND.

Mary Myatt, æt. 21, has suffered from occasional attacks of chronic inflammation of the lachrymal gland for several years past.

It appears that when she was very young, she was severely afflicted with measles, which left her eyes extremely weak; her health has since, however, been tolerably good in every respect, except that she has suffered from attacks of erysipelas of the face, on three or four occasions.

*State of the right eye on the 20th of July,* 1835.—The cornea is generally hazy, and at one or two points distinctly opaque. There is a trivial zone around the corneal margin, with a slight increase in the vascularity of the conjunctiva. There is considerable intolerance of light, and extreme lachrymation, so that, on an attempt to examine the eye, the orbicularis muscle contracts most powerfully, and becomes irritable and spasmodic for some time afterwards; the exposure of the eyes, which occurs during the period of examination, is attended with intense suffering, and a profusion of hot tears are discharged with a bubbling noise, the latter part of them are frothy, as in rheumatic sclerotitis. The eye-lids project as a convex body, just as though some opaque substance of an oval figure, but flattened at its sides, were placed behind the palpebræ, immediately beneath and a little to the outer part of the eye-brow. This tumour is somewhat painful when compressed; it is hard and slightly irregular, and has a pretty sharp margin. The gland appears to have enlarged in its antero-posterior direction, and not to have thickened, so as to occupy a much increased space between the globe, and the upper and outer part of the orbit; for the upper palpebra is more projected, and the eye-ball is less fixed than is usual from that enlargement of the lachrymal

gland which takes place during its protracted inflammation.

The condition of the left eye and eye-lids is very similar to that of the right.

*Treatment.*—The disease was gradually relieved by the occasional application of leeches just beneath the eye-brows, and by keeping the patient in a darkened room, and prohibiting all exercise of the eyes. Various medicines were administered during the course of the disease, namely, mercury, quinine, pilula aloes c̄ myrrha, various preparations of iron, &c. but I am satisfied they were of no material service.

### PTOSIS AND AMAUROSIS, WITH INSENSIBILITY AND IMMOBILITY OF THE EYE-BALL.

— Morris, æt. 30, caught a severe cold, by having a damp pillow to sleep upon, about the 3rd of last December (1835). He says that on the following morning he could scarcely open the right eye, and that he experienced a sensation as though sand were beneath the lids. About four days afterwards he saw double, and two days subsequently the eyė-lid could not be at all raised, and his vision was, in a great measure, destroyed. At this time he also suffered from dreadfully severe pain on the right side of the head, and numbness of the face. He was then at Wolverhampton, and the means employed for his relief, were not in the slightest degree successful. There is no defect in the sense of taste, of smelling, or of hearing.

*State and appearance of the right eye and eye-lids when I first saw him on the 3rd of January.*—The eye-ball is quite immoveable, and its surface is quite

insensible, so that it may be touched with a feather, or even roughly rubbed with the finger, without communicating the slightest uneasiness. When he wishes to move the eye, he does so by means of the finger; if, for instance, he is requested to look towards his nose, he raises the upper lid with one hand, and with the other presses the eye-ball in the required direction. The lachrymal secretion is entirely suppressed; the conjunctival secretion collects in shreds upon the surface of the eye, from a want, I presume, of prompt and proper diffusion by means of natural nictitation, and also from a want of due dilution. The upper lid covers the eye, but is not enlarged, or more vascular than it ought to be. If the finger be pressed a little below the eye-brow, and the patient be then requested to make an attempt to raise the eye-lid, not the slightest agitation or quivering of the levator palpebræ is perceived; on the contrary, the muscle appears to be completely paralysed.

This case furnishes a good instance of total paralysis of the muscles of the eye ball, and of the levator and orbicular muscles; of insensibility of the surface of the eye and the conjunctiva, without the destruction of its secreting property, and of suppression of the lachrymal secretion. This young man was improving under the use of strychnia, internally administered, and locally applied, when I discovered disease of the upper jaw bone, a portion of which the patient removed shortly afterwards. There is still some of the bone so far diseased, that it will be necessary to take it away as soon as it becomes sufficiently detached for the purpose.

This untoward occurrence necessarily obliged me to suspend the further employment of the strychnia, from the use of which, such agreeable results had been anticipated.

### SYPHILITIC ULCERATION OF THE EYE-LID.

A woman applied to me with a small ulcer at the tarsal margin, on its conjunctival aspect, which, from its appearance, and the nature and periodical character of the pain attending it, I judged to be syphilitic, but as I was much hurried when she came to the Infirmary, I did not make the inquiries necessary to establish the positive correctness of this conjecture. I prescribed for her a weak oxymuriate collyrium, and directed her to take, every night at bed-time, two grains of calomel, and four of Dover's powder. Although this person did not comply with my express direction, by calling upon me the next day, I have since learned that the ulcer healed in about a fortnight, by the use of the stock of medicines with which she was first supplied on her visit at the Infirmary. My practice has furnished me with an opportunity of knowing that syphilitic ulceration of the eye-lids, which, at its early stages, is almost always very easily cured by the judicious employment of mercury, is very liable to be overlooked; and that when it has been permitted to continue for a long time, it usually produces extensive destruction of the palpebræ, which is then confounded with cancerous or other malignant form of ulceration of that part.

# ARTICLE XVIII.

## A REPORT OF THE SURGICAL PATIENTS,

ADMITTED INTO THE

## NORFOLK AND NORWICH HOSPITAL,

FROM THE 1ST OF JANUARY, TO THE 31ST OF DECEMBER, 1834.

BY J. GODWIN JOHNSON, ESQ.

*Assistant Surgeon to the Hospital.*

THIS Hospital contains upwards of a hundred beds, and the medical establishment consists of three physicians, three surgeons, an assistant surgeon, and a resident apothecary.

| | | | |
|---|---|---|---|
| Abscesses | 33 | Disease of the knee joint | 13 |
| ..... Psoas | 4 | ..... elbow joint | 6 |
| Bruises | 59 | ..... hip joint | 8 |
| Burns | 8 | ..... ischium | 1 |
| Cachexia | 6 | Diseases of the testis | 7 |
| Calculi vesicæ | 10 | ..... antrum | 1 |
| Cancer of the penis | 2 | Dislocations of the ankle | 3 |
| ..... skin | 5 | ..... fingers | 2 |
| ..... breast | 2 | ..... shoulder | 3 |
| ..... uterus | 2 | ..... hip | 1 |
| Cataract | 1 | ..... clavicle | 1 |
| Catheter broken in the bladder | 1 | ..... elbow | 2 |
| Club-foot | 2 | Dysuria | 9 |
| Concussion of the brain | 2 | Elongated Uvula | 1 |
| Cut-throat | 1 | Enlarged glands | 7 |
| Disease of the bones of the foot | 6 | Epulis | 1 |
| ..... fingers | 1 | Fistula of the anus | 7 |
| ..... spine | 7 | ..... vesico-vaginal | 1 |
| ..... lower jaw | 1 | ..... perineal | 1 |
| ..... wrist | 2 | Fractures of the spine | 1 |

| | |
|---|---|
| Fracture of the lower jaw | 1 |
| ..... ribs | 4 |
| ..... scapula | 1 |
| ..... into the elbow joint | 3 |
| ..... of the humerus | 6 |
| ..... metacarpus | 1 |
| ..... skull | 5 |
| ..... pelvis | 2 |
| ..... thigh, simple | 15 |
| ..... thigh, compound | 2 |
| ..... fore-arm, simple | 15 |
| ..... fore-arm, compound | 1 |
| ..... radius | 5 |
| ..... clavicle | 13 |
| ..... tibia | 5 |
| ..... leg, simple | 11 |
| ..... leg, compound | 2 |
| ..... fibula | 4 |
| ..... fingers | 3 |
| Ganglia | 4 |
| Gangrene | 4 |
| Hæmorrhoids | 2 |
| Hare-lip | 1 |
| Hernia, scrotal | 6 |
| ..... femoral | 2 |
| Hydrocele | 6 |
| Inflammation of the throat | 3 |
| ..... knee joint | 14 |
| ..... ankle joint | 5 |
| ..... elbow joint | 1 |
| ..... hip joint | 7 |
| ..... instep | 2 |
| ..... extremities | 6 |
| ..... cellular membrane | 1 |
| Irritable uterus | 1 |
| Lupus | 1 |
| Nævi | 2 |
| Necrosis of the tibia | 4 |
| Nephritis | 1 |
| Œdema of the leg | 1 |
| ..... hand | 1 |
| Ophthalmia | 4 |
| Otorrhœa | 1 |
| Ozæna | 2 |
| Paralysis, partial from accidents | 3 |
| Periostitis | 2 |
| Prolapsus ani | 2 |
| ..... uteri | 3 |
| Psoriasis | 6 |
| Relaxed ligament of the knee and ankle | 3 |
| Retention of urine | 10 |
| Scalds | 4 |
| Sloughing of the urethra from retention of urine | 2 |
| Sprains | 9 |
| Stricture of the urethra | 4 |
| ..... œsophagus | 1 |
| Sycosis menti | 2 |
| Syphilis | 1 |
| Tinea capitis | 2 |
| ..... tarsi | 1 |
| Tumours | 18 |
| Ulcers of the legs | 62 |
| ..... in various parts | 27 |
| ..... of the fauces and throat | 15 |
| Varicose veins of the leg | 3 |
| Wounds | 50 |
| ..... gunshot | 5 |
| ..... of arteries | 2 |
| Diseases not described | 10 |

| | | |
|---|---|---|
| The number of patients admitted amounts to | | 658 |
| Of these, the in-patients amount to | 469 | |
| ..... out-patients | 189 | |
| Of the 469 in-patients there were, males | | 326 |
| ..... females | | 143 |
| Of the 189 out-patients there were, males | | 128 |
| ..... females | | 61 |
| Males admitted during the year, | | 454 |
| Females | | 204 |

The casualties amount to 247, being considerably more than a third of the whole number.

| | |
|---|---|
| The deaths during the year amount to | 20 |
| Of these, the number of males was | 17 |
| ..... females | 3 |

The causes of death were as follows:—Two from *burns*, viz. a child under 10, and a woman of 80;—three from *stone*, viz. 1, a man who came in with a stone of large size, and inflamed bladder; he died in a

few days: 2, a man aged 63, having had symptoms for four years, was lithotrized, and died of inflamed bladder, &c.—3, a child 3 years old, having had symptoms for one year, was cut, and died in a few days;—two from *fracture of the skull*;—one from psoas abscess;—one from general cachexia;—one after amputation, on account of a diseased knee joint;—one from cut-throat;—one from fracture of the spine;—one from malignant disease of the testis;—one from gangrene of the foot;—one from sloughing of the urethra;—one from disease of the lungs, supervening on psoriasis;—one from compound fracture of the arm and thigh;—one from a catheter, broken in the bladder;—one from disease of the lungs, supervening on fracture of the arm;—one from a cause not stated.

*The following table shews the ages of the respective patients who died in this year.*

| 1 to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. |
|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 3 | 1 | 1 | 4 | 3 | 2 | 1 |

*The following table shews the ages of all the patients admitted, and the number and age in each month.*

| | 1 to 10. | 10 to 20. | 20 to 30. | 30 to 40. | 40 to 50. | 50 to 60. | 60 to 70. | 70 to 80. | 80 to 90. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|
| January | 7 | 10 | 13 | 8 | 8 | 2 | 4 | 1 | ... | 53 |
| February | 6 | 5 | 16 | 5 | 10 | 3 | 4 | ... | ... | 49 |
| March | 5 | 15 | 12 | 6 | 10 | 2 | 2 | ... | ... | 52 |
| April | 8 | 11 | 10 | 5 | 9 | 3 | 4 | 2 | ... | 52 |
| May | 15 | 13 | 7 | 8 | 8 | 5 | 1 | ... | 1 | 58 |
| June | 9 | 15 | 10 | 6 | 6 | 4 | 5 | 1 | 1 | 57 |
| July | 10 | 20 | 7 | 7 | 9 | 3 | 2 | 2 | ... | 60 |
| August | 8 | 11 | 10 | 18 | 6 | 3 | 1 | 1 | ... | 58 |
| September | 4 | 11 | 13 | 8 | 10 | 2 | 2 | ... | ... | 50 |
| October | 8 | 11 | 15 | 8 | 2 | 5 | 1 | 1 | 1 | 52 |
| November | 9 | 10 | 14 | 10 | 4 | 6 | 4 | ... | ... | 57 |
| December | 5 | 14 | 20 | 10 | 5 | 3 | 3 | ... | ... | 60 |
| Year | 94 | 146 | 147 | 99 | 87 | 41 | 33 | 8 | 3 | 658 |
| Accidents—according to their ages | 50 | 68 | 36 | 40 | 20 | 14 | 14 | 3 | 2 | 247 |

| Of the 658 patients admitted, there were— | |
|---|---|
| Cured | 448 |
| Relieved | 53 |
| Died | 20 |
| Went away without leave | 14 |
| Discharged at their own request | 14 |
| Not likely to receive benefit | 8 |
| No account given | 51 |
| Remain under treatment | 50 |
| | 658 |

Of the 51 of whom no account is given, a very large proportion consisted of trivial cases, which were evidently cured, but did not attend to be discharged.

The following cursory remarks may, perhaps, by surgeons, be deemed to possess some interest:—

Nearly a third of the ulcers of the legs were accompanied by a varicose state of the veins. Three only assumed a phagedenic character, but these readily yielded to soothing local applications, and attention to the general health.

Several of the cases of posterior curvature of the spine were successfully treated, by rest on a firm mattress, the adaptation of a wooden splint, well padded, to the projecting vertebræ, and stretching, which was effected by fixing the head to the upper end of the bedstead and making careful and graduated extension of the hips and legs.

Both the cases of cancerous penis required amputation; in one, the disease appeared to be wholly confined to the prepuce.

Of the tumours, one was fungoid, situated on the posterior part of the vagina, and was removed by means of a ligature applied by Gooch's canula: the woman, who was previously sinking from profuse hæmorrhage, rallied much after the operation. Four were adipose; two encysted; three irritable tumours of the breast; three enlarged glands; one

ranula; two pudendal; two of the nose; one of the parotid gland, and two of the ear.

In one of the cases of prolapsus ani, the prolapse had taken place into the vagina, and was treated by pessary, &c.

The vesico-vaginal fistula arose from a severe and long protracted labour, in which the hand and arm presented and the child could not be turned: no instruments were used. Caustic, nitric acid, the actual cautery, and the use of ligatures at three different periods, failed to close this fistula. When discharged from the Hospital, the constant introduction of a sponge sufficed to keep the patient in a tolerably comfortable state.

One of the cases of diseased testis appeared to be a combination of hydatidous and fungoid disease.

The disease of the antrum presented a very prominent tumour on the left side of the face, and was of three months duration. A free opening was made through the socket of the posterior bicuspid tooth, and some pus escaped: no diseased bone could be felt. After a short time a solution of sulphate of zinc was injected daily, and the disease was cured, all deformity having disappeared.

The two cases of club-foot were in infants, and were successfully treated, by an instrument worn for six months.

Injections of port-wine and water were used in all the cases of hydrocele, with one exception: in this instance there were two separate cysts of hernia, which greatly embarrassed the operation. The injection, which was a solution of sulphate of zinc, having escaped into the cellular membrane, exten-

sive sloughing resulted, but the patient eventually recovered.

Ten male patients were admitted with calculi: six were cut, of whom one died, and five were cured: two refused to remain in the house; one was a man of seventy, with a very large stone, having had symptoms for ten years, and was not considered a proper subject for the operation; and one died shortly after his admission, from inflamed bladder and diseased kidney.

One lens was depressed, and one broken up in the case of cataract: both operations succeeded.

The burns were all treated by the application of wadding.

Both the patients with fracture of the pelvis recovered; in one the left thigh was also fractured. Fractures of the thigh are, for the most part, placed on the side.

One of the cases of dislocated humerus was of a month's duration, but easily yielded to the pullies. The clavicle was dislocated at its scapular extremity. The femur was dislocated on the dorsum ilii, and was easily reduced.

A portion, more than five inches long, of a catheter, made of soft metal, somewhat firmer than a metallic bougie, was broken off in the urethra and escaped into the bladder of an old man of 80; it was seized by Weiss's forceps and extracted. He died six days afterwards, being sixteen from the accident.

*Examinatio cadaveris.*—The intestines were firmly bound to the bladder by adhesions of long standing; the coats of the bladder were considerably thickened,

and its cavity much contracted; the mucous membrane was vascular and dark; the right lobe of the prostate gland was enlarged, and the left much more so; the third lobe, which formed a projection into the cavity of the bladder, was soft, spongy, and vascular, and had been perforated by some instrument. The neck of the bladder was found uninjured by the operation, but the lining membrane of the urethra was lacerated in several places. The urine in the bladder was mixed with muco-purulent matter.

The following cases of fracture of the skull possess some interest:—

James Becket, aged 16, admitted in the afternoon of January the 12th. He came from a distance of four or five miles in a cart, and got out and walked into the Hospital without assistance. On examination, the breech-pin of a gun, which had burst in firing, was found to have penetrated the frontal bone, just in the situation of the superior longitudinal sinus. He gave an account of his accident, answered questions well, and was not at all confused. The surgeon who had charge of him, proceeded to remove the breech-pin, which was firmly impacted, and afterwards took away three or four portions of bone, one of which contained part of the ridge to which the superior longitudinal sinus is attached. The aperture in the cranium was now nearly an inch in diameter. The dura mater was wounded, and a portion of cerebrum escaped on the removal of the foreign body. The wound was lightly dressed. *Very soon* afterwards he became restless and uneasy; complained of pain, and was much confused. Pulse 50,

and intermitting; his pupils rather dilated. Half an hour after the operation he became comatose, and his breathing stertorous; and he had slight convulsive twitchings of his *left arm*.—Ten o'clock p. m. Pulse rapid and small; pupils of natural size; passes his urine involuntarily; breathes heavily; the dressings were thrust up by a protrusion at the wound.

13th, morning.—Had been insensible all night; his left arm moving convulsively; the right side of his body paralytic; pulse 150; pupils of natural size, but inactive; respiration hurried; unable to swallow.—Evening. The left side is now become paralytic; tumour of brain more prominent.—14th. Died at ten this morning, without convulsions.

*Examinatio cadaveris, Jan. 14th.*—The tumour protruding through the aperture in the cranium, seemed to be composed of dense layers of coagulated blood and cerebral substance, of a dark colour, sloughing and disorganizing; and the brain in immediate contiguity with the hernia, presented a somewhat similar appearance. The tumour arose from the right anterior lobe of the cerebrum, near the superior longitudinal sinus, which had been wounded on the side next the hernia, and a large quantity of coagulated blood was found both above and beneath the dura mater in this situation. The brain, in general, was pale and bloodless.

The surgeon who had charge of this patient, has favoured me with the following remarks upon the case:—"This boy walked to his ward on arriving at the Hospital; was quite sensible, and continued so, without any symptoms of compression, *until after the breech-pin was removed,* when he became,

in a short time, comatose with stertorous breathing and dilated pupils, and died in less than forty-eight hours. Death, in this case, ensued from pressure being removed: the brain being left not only *uncompressed*, but unsupported, at the seat of injury, so that some of it escaped through the wound, and a hernia cerebri was quickly formed from the impetus of the circulation. Thus death was expedited by the injured brain protruding so as to interrupt, more completely, its functions. Had I allowed the breech-pin to remain, life would, I believe, have been prolonged, and have terminated, in the course of some days, from inflammation of the membranes of the brain. How are we to reconcile this case with the present doctrines of our greatest authorities, in regard to compression of the brain? The symptoms which quickly shewed themselves on the removal of pressure, in the above case, were precisely those enumerated as the *symptoms of compression*. We can only say, that such a train of *symptoms* are the effect of interruption to the cerebral functions, and that compression is *one*, but *not the only cause* capable of producing these symptoms."

I confess that *I* am inclined to consider the symptoms in this case, as resulting from the effusion of blood, which took place from the wound in the superior longitudinal sinus—this wound having been caused by the breech-pin, and effectually plugged up by it: thus accounting for the symptoms of compression of the brain which so quickly followed its removal.

*Fracture of the base of the cranium, and effusion of blood, producing compression of the brain.*—Martha Ward, aged 68, of diminutive stature, and

slender form, was admitted at ten o'clock at night, on the 18th of September. She had fallen down three or four stairs at twelve o'clock at noon; was not aware how long she remained prostrate, but had got up without assistance; she was quite sensible, and had described her fall to a medical student, who visited her soon after, and who thought her case trivial. At three o'clock she became comatose, and her breathing was stertorous; and she remained in this state until six o'clock, when a surgeon saw her, and bled her to twenty ounces. On admission, she was insensible, and her breathing stertorous; her pulse small and frequent; her skin pallid and cold; there was loss of power in the left eye-lid, the pupil of that eye being contracted and fixed, whilst that of the right eye was dilated and sluggish. She was continually carrying her right hand to her face, but scarcely moved her left arm; she moved both her legs when tickled on the soles of the feet, but the left less actively than the right; her urine and fæces passed involuntarily; there was a very small wound behind the right ear, which, however, did not communicate with the bone; no fracture was felt. She became gradually worse, and died at seven o'clock in the morning of the 20th.

*Examinatio cadaveris, Sept. 20th, at half-past eleven.*—There was a fracture of the right parietal bone near the posterior inferior angle, a portion of bone, an inch long by half an inch wide, being insulated and loose, but not depressed. A fissure extended from this spot, *upwards,* along the lambdoidal suture for an inch and a half; and to the same extent across the parietal bone and *downwards,* dividing

the petrous portion of the temporal bone, and the mastoid process, and proceeding through the tympanum and eustachian tube, to the fissura lacera, at the base. On removing the calvarium, a large coagulum, weighing three ounces, was found between the dura mater and cranium; it was one inch and a half thick, and produced a corresponding indentation of the brain. The blood proceeded from a branch of the arteria meningea media, about two inches from the external wound; the brain and plexus choroides were pale; there was about half an ounce of fluid in the ventricles.

The first symptoms appear to have been those of concussion, from which she quickly recovered; the succeeding symptoms arose from compression of the brain by a large coagulum.

*Fracture of the skull, and depression without symptoms.—Operation.*—James Pye, aged 11, admitted December the 15th; there was a wound, almost parallel with the sagittal suture, over the left parietal bone, which was bare, and a triangular portion of it depressed, the depression being about twice the thickness of the cranium, and gradually diminishing. He was quite sensible, and answered questions readily and correctly; pupils active; pulse regular. The wound was enlarged, and a portion of the parietal bone, overlapping the edge of the depressed bone, was removed by Hey's saw. The depressed bone was then removed, the outer table being broken into three pieces, whilst the inner table remained whole. About six ounces of blood were lost during the operation.—16th. Slept comfortably; is rather feverish. Calomelanos, gr. iv.—18th. Bowels open;

tongue very white; pulse quick; answers incoherently. He gradually recovered from this time.

*Fracture of skull with depression, and recovery without operation.*—Charles Harvey, aged 12, admitted July the 4th. He had been struck by a chimney-pot falling on his head from a roof; there was a wound two inches long, and a portion of bone, an inch and a half in length, was depressed, almost the thickness of the cranium. He was sensible, and answered questions well; pupils active; pulse very feeble and quick. The head to be raised, and cold lotion applied; calomel and jalap as a purge. He soon recovered, and was discharged on the 19th.

*Sloughing of the urethra, the result of stricture, which produced retention of urine. Recovery.*—Luke Melvin, aged 34, admitted April the 15th. Had had strictures for two years, and bougies had been occasionally passed. He became worse, and eight days before his admission, felt great pain in the perineum; leeches were applied, but on the 11th, whilst straining to pass his urine, he felt something give way, and on the 12th, first noticed a swelling of his penis, which has increased daily. On admission, we found he had not passed any urine for many hours, his penis was enormously swelled and inflamed, and in the centre of the swelling there was a slough, one inch and a half wide, by two inches and a half long, from beneath which, the urine dribbles away slowly. His bladder is not prominent; pulse quick and feeble; tongue furred and brown; countenance anxious; skin cold. Incisions were made freely in the swelling, and fomentations and poultices ordered.

16th.—Tumefaction less; urine passes, though slowly, from the incisions; bladder prominent; pain from retention great. A small flexible catheter was passed, and a pint and a half of fetid urine removed. From this time he improved, larger catheters were used, the sloughs separated, and the ulcers healed, and he was discharged, cured, May 16th.

*Sloughing of the urethra, the result of strictures producing retention of the urine. Death.*—James Jaques, aged 54, admitted September 24th. Had been subject to strictures twenty or thirty years; about eight days since he was unable to pass any urine, and felt great pain in his perineum, where he perceived a knot. On admission, he had an immense swelling in the perineum, extending to the scrotum and left thigh, of a dark red hue; with shining, parched tongue, rapid pulse, and anxious countenance. A long incision was made through the most prominent part of the swelling, but no urine escaped; a warm bath and castor oil were ordered.

25th.—Restless night; bowels open; tongue and pulse as before. Six ounces of urine were removed on the previous evening by a small catheter. He had vomiting and hiccough; the scrotum is much more swelled; bladder prominent above the pules. A catheter was introduced, but did not reach the bladder; it entered a cavity in the side of the urethra, and about two or three ounces of bloody fetid urine passed. The incision was made much deeper, when some ounces of urine, mixed with blood and offensive pus, escaped.

26th.—Bad night; frequent vomiting and hiccough; tongue brown and dry; pulse more quick,

and very feeble; the soft parts, near the wound, dark and sphacelated.

27th.—Died in the evening of this day.

28th.—*Inspectio cadaveris.*—Perineum in a sphacelated state. There was a large cavity beneath the deep perineal fascia, communicating with the urethra, in which no trace of stricture remained. The muscular and mucous coats of the bladder were much thickened, and the latter was in a very diseased state, presenting an appearance of ecchymosis. A calculus, of an hour-glass shape, was found, one of its portions being in the general cavity of the bladder, whilst the other occupied a sac, formed by the mucous membrane protruding between the muscular fibres. Each portion of the calculus was as large as a walnut, and the two portions were connected by a very narrow neck, which broke in removing the calculus. The right kidney was large and studded with cysts, and the left in the same state, but shrivelled.

PART VI.

# BIOGRAPHY.

## ARTICLE XIX.

## BIOGRAPHICAL NOTICE

OF THE LATE

## EGERTON ALLCOCK JENNINGS, ESQ. F.L.S.

OF LEAMINGTON.

BY JOHN CONOLLY, M.D.

*Warwick.*

THE object of the biographical notices inserted in these *Transactions*, may be either to present a full account of such respected members of the Association, as, after living to the natural term of human life, have left an example which may be usefully contemplated by younger men; or to record the merits of those cut off in an earlier stage, but whose talents, industry, and virtues, gave the fullest assurance that if their existence had been prolonged, they would have been enumerated among the benefactors of medical and surgical science. In

the one case, the biographer displays the full progress of the individual; compares the performances of mature years with the promises of youth; and relates what achievments and what honours, what useful discoveries, or what advantages to society, have been attained or effected, and by what virtues, and at the price of what labours and what care. Such a complete picture shows to every reader, of how much, and yet of how little, a single life admits the accomplishment. In the other case, the biographer holds up an unfinished sketch, which warns the youngest, and the most ardent, that their most cherished designs may be suddenly interrupted, and their proudest hopes formed but to be frustrated; and yet, that by vigilance and well-directed exertion, they may exhibit so much power of being useful, and so great a disposition to be so, as to crown the shortest life with honour, and to descend, although into a premature grave, followed by regrets as warm, a respect as sincere, and a reputation as enviable, as that which can accompany old age.

Since the publication of the preceding volume of the *Transactions*, the Association has been deprived, by the death of Mr. Jennings, of one of those members who from its first foundation, at the meeting held at the Worcester Infirmary in 1832, at which he was present, felt, even to the day of his death, a singularly zealous interest in its proceedings and welfare. Of all the medical friends whom it has been my happiness to possess, or my misfortune to have to deplore the early loss of, none more intensely identified himself with the profession to which he belonged, and consequently none felt more interest

in societies and associations by which the members of the profession were more closely united, or more efficiently engaged in the prosecution of science. By none, I may add, was the good opinion of the enlightened and estimable members of our profession more deeply valued, and to none was the prospect of deserved posthumous remembrance more an object of desire.

To me, already accustomed to the melancholy task of endeavouring to preserve a few memorials of fellow students and professional friends too early "hid in death's dateless night," it is peculiarly sorrowful to call to my recollection, as if they were but the events of yesterday, my journey to Worcester with Mr. Jennings in 1832, and to Bristol in 1833, to attend the meetings of the Association, and the enthusiasm with which he, a much younger man than myself, spoke during those journies of the possible effects of such associations; and so soon to have to speak of *him* as one no more. Those who recollect seeing Mr. Jennings at the meeting in 1834, at Birmingham, cannot but remember that his appearance at that time was that of a man for whom long life could not be expected: he had indeed travelled from home on that occasion in a state of debility which nothing but his warm attachment to the cause of the Association could have enabled him temporarily to overcome; and he had even prepared a paper, which was read at that meeting, demanding a great degree of attention, and written at a time when he was recovering from a severe attack of fever. During that attack, and through all the subsequent months of his life, he

spoke with anticipations of peculiar delight of the meeting which was to be held at Oxford in 1835; but before the day of that meeting, he had become mingled with the dead.

The life of a provincial practitioner, dying at the early age of thirty, cannot be supposed to present many particulars for the biographer. Those in the life of Mr. Jennings are chiefly illustrative of his industry and talent as a boy, as a student, and as a practitioner who had already attained considerable eminence. But the qualities of his mind and heart were so entirely the basis of the reputation which he enjoyed, and of the esteem of his friends, that a few pages may usefully be devoted to recording some of the particulars of his short career.

He was born in April, 1804. His father, who was of a very respectable family in Somersetshire, was engaged in the wholesale iron trade at Birmingham. His mother, who has survived to feel the irreparable loss of this her only son, was the eldest daughter of the late Egerton Allcock, Esq. of Abbots Bromley Park, in the county of Stafford. From his early childhood he evinced an aptitude to receive every kind of instruction; but at five years of age, from some unexplained cause, his faculties became for a time so evidently obscured, as to excite much apprehension in the minds of his parents. In less than two years, however, his mental activity returned; and it suffered no subsequent obscuration. When eight years of age, he had the misfortune to lose his father; a loss which would seem in this case, as in others, to have had the effect of imparting a more fixed character to boyhood than is usually found in

those who have not known so early a conviction of the necessity of achieving their own independence. It has been among the consolations of his grieving mother to remember, that from that time, her son *never* did any thing to make her unhappy—a rare eulogy, and I believe in this instance well deserved. In his daily conduct, indeed, when he had arrived at the age of manhood, it might be observed that his dutifulness towards that exemplary parent arose out of a sense of obligations which began with his first recollections.

Until he was about eleven years of age he was educated at the Free Grammar School at Birmingham, by the Rev. Rann Kennedy, to whom he was much attached. He was then placed under the care of the Rev. John Griffin, of Solihull, of whom he invariably spoke in terms of grateful recollection. Whilst there, he began to evince that desire for general and exact knowledge for which he continued always remarkable. It is remembered that it was his peculiar delight to converse with every body, of whatever age, or whatever class, who would talk with a boy of his years; and in this way to pick up from each whatever information each happened to possess. His retentive memory enabled him at any time to make use of the stores of minute information thus acquired; a circumstance which often in future years added interest and originality to his conversation among his friends, and occasionally increased his influence over his patients of various classes, who were surprised and pleased to find their surgeon so accurately informed concerning particulars in which, from their own habits or occupations, they felt a more than common interest.

At fifteen years of age, he was removed from school, and placed under the care of Mr. Woody, a surgeon then in considerable practice at Tamworth, with whom he would seem to have enjoyed advantages that in some degree compensated for the early interruption of education attendant on the system of long apprenticeships. That gentleman soon discovered the excellent qualities of his pupil, and foretold that he would not be an undistinguished man. The fondness he evinced for the medical profession, his industry, and his good understanding, were all conspicuous. But when he had been only three years with this valued master, for whom he felt a sincere and grateful regard, the death of Mr. Woody caused him to be removed to London, where he became a pupil at St. Bartholomew's Hospital. After studying some time in London, not being old enough to pass his medical examinations, he passed a year and a half as assistant to Mr. Stowe of Buckingham, by whose assistance and direction this important portion of his life was spent in the acquisition of valuable knowledge, both professional and scientific. He resumed his studies in London in the autumn of 1825, and passed his examination at the College of Surgeons, and at Apothecaries' Hall, in the spring of 1826. In the early part of that year, however, he had a severe illness, during which he was watchfully nursed by his affectionate mother, and no less carefully and skilfully attended by his attached friend, Mr. Savory, now of Stowe; but from the effects of which it is doubtful if his constitution ever entirely recovered.. His frame had always been delicate, and from this period his appearance, even

when enjoying the best health, was such as medical observers generally regard with some apprehension, although the activity and vivacity of his mind and disposition almost hid the impending danger from common observers. His figure was tall and slender, and, to use a not unfrequent observation of his own, his head and his intellect seemed as if intended to have had a more substantial support than that afforded by so sparely developed a bodily frame and extremities. His features were well formed and rather large; his eyes were dark and animated, and the expression of his countenance intelligent and amiable, strongly indicative of thoughtfulness, accompanied with a slight appearance of reserve, a quality which in some degree belonged to him.

After passing his examinations, he returned to Tamworth, and for about a year was assistant to Mr. Thompson, by whom the practice of the late Mr. Woody was carried on, conjointly for his own benefit and that of the widow. The state of his health still rendered the kind attentions of Mrs. Woody and her family very necessary to him, and these attentions were, I know, never forgotten. But the prospect of a practice in the rapidly increasing town of Leamington, led him, in 1827, to leave a neighbourhood in which his talents were becoming highly appreciated, and where he was already universally esteemed.

At the early age of twenty-three Mr. Jennings became a resident of Leamington. His judgment, however, was beyond his years. As a student he had been singularly diligent. Anatomy, physiology, and surgery, had especially occupied his attention,

but he was also fond of, and well acquainted with, the collateral sciences of chemistry and botany. The case books, and notes of lectures, made by him when a student in a school to which Abernethy and Lawrence then belonged, are illustrated by numerous and beautiful sketches, made by his own hand; and he had availed himself of every opportunity of collecting preparations of morbid parts. It had been a custom with him, when a student, to copy the engravings found in the most valuable anatomical works, and thus to become the possessor of them in an economical form. He always remained a zealous admirer of the art of painting, and frequented with much pleasure the studio of his respected friend, Mr. Rider of Leamington, from whom I learn that he was a close observer, and diligently cultivated a correct critical taste. It need scarcely be added that he was among those who were especially gratified to possess the recent and splendid works of Swan, Bright, and Carswell, in which so much that is beautiful in art is made subservient to pathological instruction.

The pursuits to which he had thus become attached, and the habits which he had formed, would have been valuable in any situation, and were particularly so in that which he selected for his abode. Those who have contemplated the medical character as influenced by outward circumstances, well know, that there is no region less propitious to professional habits and genuine professional virtues than a fashionable watering-place. Living and depending upon a crowd of idlers and hypochondriacs, in towns seldom offering many aids to scientific or

literary pursuits; expected to be often seen in circles where pleasure is the only object of those assembled; exposed to misconception from the ignorant great, and to being over-estimated as well as not estimated justly by those who can dispense patronage at will, and often award it with caprice; a young practitioner who commences the business of his profession in such a place soon finds out that it is neither study, nor extent of knowledge, nor an earnest attention to the phenomena of disease, nor an anxious desire to cure real maladies, that will alone advance him. Happy is it for him if he does not learn that there is no delusion so monstrous, no practice so unscientific and immoral, no fraud so vulgar and shameless, but what will tend, in such an atmosphere, to waft him into temporary reputation. The trial, in such circumstances, must be greater in proportion to a man's necessities or to his ambition. Few men have sufficient courage to see themselves condemned to the chances of poverty and neglect, even by their honesty and virtue; and it is perhaps harder still for the ambitious man to behold the gilded honours for which he pants, seized by others whom he knows to be his inferiors in knowledge, and only superior to him in that low worldly wisdom before which sincerity is folly and truth a jest.

Whatever reflections of this kind might have passed through Mr. Jennings's mind on first settling at Leamington, would not only be powerfully opposed by his inflexible honesty, and his just self respect, qualities which were in him as powerful as was his ambition, but also by the fortunate circumstance of his having for his competitors for public

favour there, several practitioners nearly of his own age, some of whom had been educated in the same school with himself, in London, and many of whom were not only able and well informed, but of the highest respectability both in their private and professional character. He lived long enough to make not a few of these estimable persons his friends, and I know that their sincere and disinterested regrets followed him to his grave.

A fragment recording his own character, drawn up by himself about this time, bears curious testimony to the rigidity with which he practised self-examination. To one who took so impartial a view of himself, every year was sure to bring improvement in it; and I speak from what I conceive to have been a somewhat minute knowledge of him, acquired when he was in sickness and in health, that such was really the progress he was continually making. In this fragment he represents himself as having looked into many sciences from a love of admiration, and a desire to be thought scientific. But these attempts, he adds, had improved his knowledge and exercised his mind; and taught him, either by success or failure, how far he might trust to its strength. He acknowledges that the same feeling had sometimes made him disputatious; and that by disputing with, he had occasionally lost the good opinion of some amiable and estimable persons. He describes his passions and feelings as being generally calm and moderate, but trusts he has become nearly free from the fault of being indisposed to forgive. He avows that a sort of distrust of mankind has often made him practise reserve;

but although he says he can defend this habit to himself, he considers his defence to be but specious, and not satisfactory. A page or two, in which he speaks of his religious opinions, is highly honourable to his candour, his feelings, and his judgment. But I shall have to allude to a conversation with him, in very solemn circumstances, which has the effect of precluding me from publishing this paper, or, indeed, any of his writings; although I trust I do not commit any violence to the confidence he reposed in me, and of which, although he is no longer in this world, I should lament to become undeserving, by thus alluding to a memorandum that can but do honour to his memory.

It was, I am convinced, from this habit of self-examination, that, whatever disappointments he was subjected to, or however slowly it might seem to him that his knowledge, industry, and integrity, were reaping any material rewards, he still retained all a student's ardour for information; that he preferred the solitary labours of his own study to the most attractive pleasures of society; and that none of the advantages supposed to arise from an attention to new arrivals, or from an affectation of hurry and a multiplicity of engagements, ever led him to avoid any sacrifice of time or labour by which he could gain any clearer views relating to disease. His zeal for the practical part of his profession, and for morbid anatomy, might have been termed excessive, if it had been exclusive: but, however busily employed, he was always interested in every branch of science, and was far from insensible to the finer delights of literature. The sick-room, and

the examination-room, were, I feel convinced, the scenes of the greatest happiness which he ever experienced; but he was indefatigable in making himself acquainted with almost every branch of knowledge. The kind attentions by which his patients were so much gratified, cost him no effort. Every case was to him an interesting study; and the ultimate object of his study was ever the relief of pain and suffering, and the cure of disease. This gave him so evident an interest in the investigation of symptoms and their causes, and in watching the effect of the treatment, that the confidence which his patients felt in him was unbounded; and the gratitude of several of them was expressed in a manner the most gratifying to himself and to his family.

His good sense had suggested to him, or observation had taught him, that this confidence, a sense of possessing which is one of the highest pleasures that a medical man can experience, would be more durable, as well as more honourable to him, in proportion as it was gained by being deserved; and that he could only really deserve it by study and by practical industry. Accustomed as he was to consider the characters of those around him, (a sort of observation in which he was remarkably perspicacious) it could not long be unknown to him that simplicity of manners and perfect good faith are not only the most appropriate characteristics of a physician or a surgeon, but among the surest methods of gaining the esteem of the judicious and honourable part of mankind; whilst their opposites were but precarious means of snatching at a sudden and

ephemeral fame, and, at the same time, inconsistent with the character of a practitioner or of a gentleman. Nor was he insensible to higher considerations, which prevented him from regarding mere worldly success as the sole object of his efforts. Yet these just views, which preserved him from all taint of quackery, were never made excuses for apathy, or apologies for indolence; but were combined with an active, and even with an anxious desire for the favour of the public, for professional success, and all the advantages arising from it.

An extreme foudness for minute anatomy had led him to pay very particular attention to the structure, functions, and diseases of the nervous system, and especially of the spinal chord. The number of cases of diseased spine, and of spinal irritation, which were brought to Leamington for the benefit of his advice, was considerable. He was certainly more sanguine of the possible effect of persevering treatment in such cases than are the generality of experienced practitioners; and when a new case of the kind was presented to him, it seemed for a time entirely to occupy and excite his mind. Within a very few hours of his death, and when he knew and intimated to me in terms not to be misunderstood, and never to be forgotten, that the process of death had commenced, he spoke with much animation of such a case, then in progress, and on which we had been together in attendance; maintaining, with energetic words, the certainty of cure.

The notes he had left of cases of this description were numerous, ample, and not uninstructive; but it was his wish that no part of them should be pub-

lished after his death. The kind permission which I have had from his family, to look over his various manuscripts, has enabled me to say that if his life had been spared, I believe he would have done much towards elucidating some of the obscurest parts of nervous pathology. He had considered the subjects of his particular attention on every side, had arranged the evidence already gained, and prepared for more yet to be sought; had compared symptoms with the appearances after death, and weighed the value of different modes of treatment with so much care, so much candour, and so constant a love of truth, that I cannot but greatly lament on this account, as well as on all others, that his labours were so soon and so fatally interrupted.

Although Mr. Jennings was never married, he enjoyed all the comforts of a domestic life with his mother and sisters. He was most sensible of the happiness arising from having those always near him to whom his anxieties might be expressed without reserve, or his hopes confessed without any dread of their being coldly discouraged. To the pleasures of general society he had very little inclination, and it was always with reluctance that he gave any of his time to the crowded parties of the dissipated town in which he lived. Indeed the common diversions of society afforded him no pleasure: his aversion for dancing and music was often a source of amusement to his friends; and for the latter he entertained a dislike mingled with contempt, owing, it may be suspected, to a defective ear, for his temperament was by no means deficient in that susceptibility to which melody addresses

itself. During his recovery from fever, a time when many patients appear to derive particular pleasure from music, Mr. Jennings's solace was to look over engravings, as if the sense of sight was in him more peculiarly a source of gratification.

The society and conversation of those whose pursuits in any degree resembled his own were most keenly enjoyed by him. It was the custom of a small party of his literary and scientific friends to meet once a fortnight, in the evening, at each other's houses; and I have been informed by his sisters, that these meetings gave him so much delight as to produce a visible and sometimes almost a painful excitement in him for some days afterward. Of all our little society, he was the most punctual in his attendance; and his animation never failed him. We were often honoured with the company of accomplished visiters, who happened to be staying at Leamington, and it will be long, I think, before any of us forget the cheerful assembling and the innocent festivity of those agreeable meetings; never, in the like manner, or with the same persons, to be enjoyed again. He was warmly interested, in 1832, in the formation of a Literary and Scientific Society at Leamington, and delivered an opening lecture, in the Lower Assembly Rooms, before a large audience, on the objects and advantages of literature and science; in which he eloquently vindicated the benefits of popular education. He occasionally attended the lectures given at the Warwick Mechanic's Institution, but had not, he confessed, conquered a reluctance to lecture to artisans; a reluctance which I am disposed to think he cherished

rather as belonging to the mild toryism which he professed, than as really very firmly rooted in his mind.

In the mean time, Mr. Jennings's practice continued steadily to increase. Among several distinguished competitors he was distinguished. Yet he had occasionally to contend with those vexations to which professional men are so much exposed. Through the extraordinary munificence of the Rev. Dr. Warneford, already a large benefactor to many charities in the midland counties, a small and insignificant Hospital at Leamington was expanded into an Institution capable of receiving seventy patients. A vacancy in the office of surgeon being declared in 1832, in consequence of the dissolution of a firm of two surgeons, who had been attached *as a firm* to the Hospital, Mr. Jennings, to whom such an appointment was an object of much desire, exerted himself with such success that his elevation seemed secure. But on the day of election, the governors of the Hospital overruled the decision of the committee; declared that there was no vacancy, and that the senior surgeon of the late firm was still one of the surgeons to the Institution; a decision against which Mr. Jennings made a public and indignant, but of course a vain appeal. By way, however, of calming the irritation which this unexpected decision had created, Mr. Jennings and two other gentlemen who had also been candidates, were appointed *assistant* surgeons; and in this capacity Mr. Jennings was far from being a useless officer of the excellent charity in which he felt so lively an interest. He soon afterward published a Chart of

Dislocations, condensed from Sir Astley Cooper's great work. He procured a license for the examination of the bodies of those dying unclaimed, and made a very diligent use of it; and a few opportunities were afforded to him of shewing that he was a skilful operator, and in all respects an accomplished and humane surgeon. He had been very active, in conjunction with Mr. Hitchman, in reviving the Leamington Charitable Bathing Institutition, now incorporated with the Hospital. I presume that I only speak the sentiments of the majority of those interested in the welfare of the Warneford Hospital, including his able colleagues, when I say that his death occasioned a loss to the Institution not easily to be repaired.

The interest which he felt in the Provincial Medical and Surgical Association was not only evinced by his attending every anniversary meeting, but by contributing a paper to every volume of its *Transactions* published during his life-time. The case of Sudden Injury of the Medulla Oblongata, in the first volume; the Remarks on the Effects of Artificial Inflation and Natural Respiration on the Lungs of Children recently born, in the second; and the Report on the Chemistry of the Blood, in the third; are memorials of his industry and intelligence which have attracted the general attention of professional readers, and have been referred to by several subsequent authors, with expressions very honourable to the deceased writer.

Among the works which he projected was one that I believe he nearly completed, of a very useful nature, a Manual of Dissections for the Comparative

Anatomist; but which, I regret to add, he could obtain no encouragement to publish.

But Mr. Jennings's professional exertions now began to suffer grievous interruptions, against which he struggled with inconceivable fortitude, until his physical frame could endure no more. In the spring of 1834, he was unfortunately attacked with continued fever, in a very severe form, complicated in its course with icterus, erysipelas, and local inflammations. During this illness he was attended by his valued friend Mr. D'Arcy Boulton, and by myself. His recovery was long doubtful; and his sufferings were considerable. The nervous and gastro-intestinal systems were most gravely implicated, and his convalescence was excessively protracted, if, indeed, it could ever be said to be complete. Yet before the meeting of the Association at Birmingham in that year, he had revised all his Experiments on the Chemistry of the Blood, as illustrative of Pathology, and had been able to draw up the greater part of the Report on that subject, published in the third vol. of these *Transactions*. Being too feeble to read it at the meeting, that friendly office was kindly undertaken by Dr. Streeten of Worcester. His laborious attention to these experiments, which he zealously undertook, as well as the task of reporting upon them, undertaken in the first instance at my suggestion, had I fear an unfavourable influence upon his constitution; for he could never be induced, in his ardour for the prosecution of such an enquiry, to consider what was due to his own health.

From this time, or almost from this time, until his

death, his course was one continued and manful struggle against an inexorable disease, most painful to witness, yet exhibiting the mingled fortitude and resignation of a well-regulated, active, and noble mind; energy, and hope, and life, slowly and consciously sinking, but without a murmur, and without regret, into langor, inactivity, helplessness, and, at length, into the night of death.

Never, indeed, was the inevitable fate which sooner or later interrupts all men's exertions contended against with a calmer courage, or yielded to, when no longer to be resisted, with a more perfect submission. After his imperfect recovery from fever in the summer of 1834, he resumed all his usual activity; and although it was now and then interrupted by journeys undertaken to recruit his strength, he returned to his duties again and again. One of these journeys was to Malvern, where he had the double advantage of Dr. Hastings's superintendence and occasional society; and from thence he certainly returned somewhat improved in appearance, and anxious to enter once more upon his accustomed labours. To close observers, there was something justly alarming in the continuance of such exertions in a state of health so visibly frail, if not actually failing; but whatever pain or fatigue it occasioned him was only known to his family, or reluctantly confessed to his most intimate friends. During the autumn he bore up pretty well against his debility; but as the winter approached, he began to be affected with abdominal and lumbar pains, and to be troubled with diarrhœa, a symptom which long continued to distress him, and proved to be associated

with a fatal pulmonary affection. In January, 1835, he appeared again to be in an amended state ; but early in March, (on the 4th,) his complaints became more harassing, and, at the same time, his face had become very expressive of serious visceral disease. The circulation was evidently carried on feebly. There was constant frequency of pulse, with many indications of disorder of the organs of digestion: the diarrhœa was more urgent; he complained of alternate stupor and irritability, and that after seeing his patients he could only lie on the sofa, and was "good for nothing" during the rest of the day. It never appeared agreeable to him to be questioned concerning the state of his respiration, although it was too evidently impaired, and he had a cough of a very suspicious character, but which he considered to have been habitual to him for some years. Unlike many medical men in sickness, he was always willing to follow the medical advice of those whom he thought it worth while to consult: his obedience was, indeed, unlimited.

For nearly ten days there were again some fallacious appearances of rallying; but about that time he imprudently allowed himself to be deprived of a night's rest, and to see about thirty patients in the course of one day ; and after this, he became totally unable to attend to his practice, and his remaining strength rapidly declined. It would be as useless, as it would be affecting, now to recall and present to the reader all the steps of a decline, of which most medical observers have seen too many examples. The vigour of his mind alone seemed to keep him in existence; and one little exertion was aban-

doned after another until he became entirely confined to his bed.

On the 23rd of March he removed to a quiet lodging in the neighbourhood of Warwick; and on the following day he made his last attempt to attend to his duties. On that day he went to Leamington, partly for the purpose of introducing his successor, Mr. Chapman, to some of his patients; and it really seemed as if it was by a kind of voluntary exertion that he prevented himself on that day from actually dying. I certainly never saw a human being, affecting to belong to this busy world, with so much of death in the expression of the face and person. Yet from this condition he recovered considerably when he again reached his tranquil country lodging, and life was still prolonged for seventeen days.

At this time I saw Mr. Jennings daily. His lively mind still occasionally triumphed over the weakness of his frame, and his conversation was clear and animated. Whenever he felt better than usual, his thoughts seemed to revert to his profession, and to the meetings and proceedings of the Association. It was, I think, on Sunday morning, the 5th of April, that he first distinctly expectorated purulent matter, mingled with a little blood; an appearance of which he intimated that the meaning could not be mistaken. In my visit to him on that day, he spoke of our having occasionally projected a second removal to Malvern; and asked me if I thought our friend Dr. Hastings would "come and look at him." Care was of course taken that he should have the consolation of seeing one whom he so much esteemed as soon as practicable, which was on Monday, the

6th. To Dr. Hastings was consigned the painful duty of informing the sinking patient, in answer to questions which we knew would be put, of the actual hopelessness of his state; and from that moment Mr. Jennings cheerfully and at once abandoned every thought belonging to this world, and prepared only to return to Leamington "to die." He was placed in an easy carriage in the morning of the 7th, and I accompanied him to Leamington. He put down the window on his side of the carriage, and seemed to survey every familiar object with cheerfulness, but with the air of a man looking upon them for the last time. He recognised some of his friends on the frequented road between Warwick and Leamington, and saluted them with a motion of his hand and an expression of countenance so placid, yet so plainly intended as an eternal farewell in this world, that it was difficult to witness it without betraying an emotion that would have disturbed him.

A singular wish had, it appeared, for some time possessed his mind, to die in a particular room in the house of a widow lady residing at Leamington, whose husband he had attended in a long and fatal illness in the same apartment. Dreading, perhaps, a return to his own house, where many well known sounds would have reminded him of business, with which he had now nothing more to do, he had conveyed this wish to Mrs. Armstrong, the lady alluded to, who did not hesitate to afford him this last consolation, and to surround him with all the comforts and attentions calculated to soothe the last hours of life; and she had the reward of knowing that he

repeatedly expressed himself, after his removal to her house, in terms of the liveliest satisfaction concerning being allowed to die where he had wished to die.

My last interview with him was on Thursday, April the 9th. After some alternations of suffering and of rest, he was evidently sinking, but slowly, and with the peculiar expression of tranquillity often seen in such circumstances. Every look, action, and word, conveyed to me the conviction that he knew that death had begun in him to contend with life. As I sat for a while alone with him, he seemed to take pleasure in speaking of the past and the future. It was then that I asked him if, among his papers, there were any which he would wish the world to have after his decease; alluding particularly to his cases of disease of the spine. His reply was, that he had once hoped to distinguish himself by their publication; but that the subject of the spine had been so associated in the public mind with the arts of quacks, that he had delayed arranging his notes and memoranda, wishing to do something connected with other subjects first; and that all of them were so imperfect that it was his desire that *none* of them should be published. He should have been glad, he added, if a little longer existence had been spared to him, to finish what he had begun; but he was contented to end his life, since it was the will of his Maker that he should do so. He said he left the world without regret, but without discontent; for he had partaken far more largely of happiness than of suffering; and he took leave of life in perfect peace with all mankind, for he had

always found, on becoming more acquainted with men, that good predominated over evil. He had been happy, he continued, in the possession of affectionate relatives; and of many most valued friends. On my observing to him that I, and each of those friends, whose labours now seemed likely to be prolonged a little beyond his own, must soon, like him, find them brought to a close, and join the innumerable dead; but that the exertion of our highest faculties would probably *not end here;* he replied, with much fervour, that such was his firm belief, and that his endeavours to improve himself could never have been persevered in but for the belief that he was created by a benevolent Intelligence, who desired that he should go on in such improvement to a higher point than could here be attained. He had often, he said, in his busiest days, reflected on death and on a future state, and felt secure that he was in the hands of his Maker in death as in life. After a short interval, in which I feel convinced that the dying physiologist was remarking, in his own person, the phenomena of departing vitality, he put his hand to his head, and said, "I feel as if there was a great hollow formed in the middle of my brain." I felt his brow, and it was then cold. Seeing him look at me with heavy eyes, as if to know whether I thought him actually dying, I made some unimportant observation on his *drowsiness;* and he repeated the word, accompanying it with a pressure of my hand that told me, too plainly, how well he knew the shades of death were falling over him.

He lived till an early hour on the following morning, surrounded by his grieving relations; and it is not my purpose to dwell longer on such a scene. I should not, indeed, have recorded any particulars of his last conversation, but, recollecting that he was in the prime of life, full of ambition, possessed of talents, and rising to fame, I have thought it might not be altogether unprofitable to younger men to know how cheerfully he withdrew from every earthly hope; not in disgust, far less in despair, not even with repining, but with perfect and unaffected tranquillity. On the last day of his life he talked, as I have already mentioned, with energy of the case of one of his patients; and even then he felt, that if his strength were renewed, his love of life would be unabated. But he knew that the hand of death was upon him, and he submitted to it with the same resignation with which he would have submitted to any ordinary trial or disappointment. The last words which he uttered, the latest expression of his countenance, and that which remained when life had fled, were indicative of that highest part of a Christian's duty, cheerful resignation.

Among the circumstances which encourage favourable views of the medical profession, is the lively estimation in which they hold professional merit, and the willing homage they ever pay to those distinguished for the possession of professional virtues. As Mr. Jennings had, during his life-time, the happiness of possessing many medical friends, with whom it seemed ever his desire to preserve an amicable intercourse, he was cheered in sickness by

their sympathies and their assistance; and he was followed to the grave by every medical practitioner resident at Leamington. A few attached friends added to the number of the mournful group; and if Mr. Jennings's wishes had not been very precisely laid down respecting the unostentatious character of his funeral, many of his grateful patients would have joined the procession; for there was perhaps not one, of any class, who did not feel that he had lost both a skilful medical attendant, and a comforter and a friend.

If, therefore, the career of Mr. Jennings was brought to an early close, the consoling reflection remains for those who loved or esteemed him, that he lived with honour and died without reproach. The years of man, even at the best, are too few to become the measure of desert; and in the record of the dead the principal circumstance is not how long any one has lived, but how well. If we honour the memory of those who attained length of years, to whom experience taught wisdom, and of whom adversity inspired or age improved the virtue, our admiration is perhaps still more due to those who, living happily, and dying early, yet passed through life unstained, were enamoured with wisdom for its own sake, and met an early death with fortitude and a devout submission.

Words like these, or any words, may be vainly addressed to those who chiefly feel what has been lost, and powerless, at least for a time, to console the affliction of surviving relatives; but they are the best tribute that can be paid by the sincerity of

friends, mortal like him they deplore, and soon to reach that term when all worldly ambition, and all the restless wishes of the human heart, will become contracted into the simple desire of leaving an equally honoured name.

END OF VOL. IV.

# INDEX

TO

# VOLUME FOURTH.

---


A

PAGE

*Addison, W.* on the medical topography of Malvern, ..... 87
Address, delivered at the Third Anniversary Meeting, ..... 1
Anatomical preparations, memoir on, ..... 284
Anniversary Meeting, proceedings at, ..... i
Autumnal fevers, &c. of Amsterdam, account of, ..... 55

B

*Barlow, Dr. E.* on ovarian tumours, ..... 389
*Brayne, T.* case of disease of pudendum, ..... 369

C

Cæsarian operation, successful case of, ..... 376
*Chavasse, T.* on the secale cornutum, ..... 306
*Coley, J. M.* on hydrometra, ..... 357
*Conolly, Dr. John,* biographical memoir of Mr. Jennings, ..... 552
*Cowan, Dr. C.* on intermittence, ..... 262
*Crosse, J. G.* on anatomical preparations, ..... 284

D

*Dick, Dr. Paris,* on the unity of organic structure, ..... 337

E

Eye Infirmary, Birmingham, report of diseases of, ..... 517

F

*Forbes, Dr. John,* on the medical topography of the Landsend, 152
Fungoid tumour and melanosis, case of, ..... ..... 437

H

*Holbrook, Dr. James,* case of neuralgia of the uterus, ..... 323
Hospital, Norfolk and Norwich, report of surgical cases of, ..... 538
Hydrometra, observations on, ..... ..... 357

I

PAGE

Infirmary, Birmingham, report of the out-cases of, ..... 479
Intermittence, on the physiology and pathology of, ..... 262

J

Jennings, Mr. biographical memoir of, ..... 552
*Johnson, J. G.* report of the surgical patients of the Norfolk and Norwich Hospital, ..... 538

K

*Knowles, G. B.* successful case of Cæsarian operation, ..... 376

L

Landsend, on the medical topography of, ..... 152

M

Malvern, on the medical topography of, ..... 87
Medical charities, statistical observations on, ..... 447
*Middlemore, R.* report of Birmingham Eye Infirmary, ..... 517

N

Neuralgia of the uterus, case of, ..... 323
*Nieuwenhuys, Dr. C. J.* account of autumnal fevers, &c. of Amsterdam, ..... 55
*Norris, Dr. W.* case of fungoid tumour and melanosis, ..... 437

O

Organic structure, on the unity of, ..... 337
Ovarian tumours, records of, ..... 389

P

*Parsons, George,* report of the out-cases of the Birmingham Infirmary, ..... 479
*Pritchard, Dr. J. C.* Anniversary Address, ..... 1
Pudendum, case of extensive disease of, ..... 369

R

*Ryland, F.* report of the out-cases of the Birmingham Infirmary, 504

S

Secale cornutum, observations on the effects of, ..... 306

W

*Walker, Dr. J. K.* observations on medical charities ..... 447

## ERRATA.

Page 133, *for* at Carlisle *read* in all England.
—— 135, *for* alive at Carlisle *read* alive in all England.

---

## NOTICES.

All Papers, and other Communications, to be addressed to the Secretaries, Dr. Hastings or J. P. Sheppard, Esq., Worcester, and forwarded carriage free.

Those Members who have not an opportunity of paying their Subscription to a Member of the Council resident in their district, are requested to pay it through the medium of their own Bankers, to Messrs. Robarts and Co. London, for Messrs. Berwick and Co., Worcester, on account of the "Provincial Medical and Surgical Association."

Gentlemen wishing to join the Association, are respectfully requested to apply to some Member of the Council in their immediate district; or to Dr. Hastings, or J. P. Sheppard, Esq. the Secretaries, Worcester.

THE FOLLOWING ARE THE

# LAWS

OF THE

# PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

---

1st.—That a Provincial Medical and Surgical Association be formed.

2nd.—That the Association be managed by a President, two Secretaries, and a Council.

3rd.—That the several Officers be appointed annually, by a General Meeting of Members convened for that purpose, at whichever of the principal towns may be appointed; the place of such Meeting being prospectively notified each year.

4th.—That at this Meeting shall be presented a Report, prepared by the Secretaries, of the general state of the Association, its proceedings, and pecuniary accounts; the Report to be afterwards printed, and a copy supplied to every Member.

5th.—That at this Meeting one of the Members shall be appointed to give, at the next Annual Meeting, an account of the state or progress of Medical Science during the last year, or an Oration on some subject connected with Medical Science, or a Biographical Memoir of some eminent cultivator of Medical Science, who may have resided in the Provinces.

### PRESIDENT.

6th.—That the office of President be honorary, and conferred on some senior Physician or Surgeon of eminence, resident in any of the provincial towns comprised in the circle of the Association.

### SECRETARIES.

7th.—That the two Secretaries be resident in Worcester, the place of publication, their duties being to attend to the printing of the *Transactions*, and to correct the press; to be present at the meetings of the Council, and to keep the minutes thereof; to correspond with the Members of the Association; to receive and submit to the Council all papers transmitted for publication; and to keep the financial accounts of the Association.

8th.—That the Council consist of —— Members, to be selected from the principal provincial towns. The Council, with whom must rest the chief responsibility of publication, to have full power of deciding on all papers transmitted, and the consent of three of its Members must be obtained before any paper can be published. It shall also be the duty of the Council to receive the subscriptions, when due, in their respective districts. Each Member of the Association to pay one guinea admission, and the same amount, annually, afterwards; the subscription to commence from the 1st of January each year, and to be considered as due, unless notice of its being withdrawn be given to one of the Secretaries antecedently to the year for which it would be payable; for such subscription each Member shall receive a copy of each part of the *Transactions* published. Each volume to contain a list of all the Members.

9th.—That each Member, on applying for admission, be nominated by two Members, as a pledge of eligibility.

10th.—That at each Annual Meeting, the place of meeting for the ensuing year shall be announced.

11th.—That Messrs. Berwick & Co. Old Bank, Worcester, be the Treasurers of the Association.

12th.—That any Member wishing to propose a new law, or an alteration in an existing law, must send notice of his intention to one of the Secretaries three months previous to the Anniversary Meeting, which will be circulated with the Report of the Council.

13th.—That the Association appoint Honorary Members at the Anniversary Meetings only.

14th.—That the Association appoint Members in foreign countries to be styled "Honorary Corresponding Members," from whom communications, respecting the state of medicine in those countries, is expected to be received.

15th.—That a Medical Benevolent Society, under the restrictions proposed in the Report of the Committee presented to the Anniversary Meeting at Oxford, be connected with the Association.

16th.—That all Papers, and other Communications, be addressed to the Secretaries, Dr. Hastings or Mr. Sheppard, Worcester, and forwarded carriage free.

17th.—That those Members who have not an opportunity of paying their subscriptions to a Member of the Council resident in their district, are requested to pay it through the medium of their own Bankers, to Messrs. Robarts and Co. London, for Messrs. Berwick & Co. Worcester, on account of the "Provincial Medical and Surgical Association."

*To give effect to the Resolutions respecting the Provincial Medical Benevolent Society, the following Committees have been formed:*

*Cheltenham.*

Dr. Baron.
Dr. Conolly.
Mr. Seager.
Dr. Bernard.
Mr. Murley.

*Liverpool.*

Dr. Jeffreys.
Dr. Brandreth.
Dr. Scott.
Mr. Dawson.
Mr. Bickersteth.

*Manchester.*

Dr. Holme.
Dr. James Bardsley.
Mr. Ransome.
Mr. Turner.
Mr. Wilson.

*Birmingham.*

Dr. John Johnstone.
Dr. James Johnstone.
Dr. Boóth.
Mr. Wickenden.
Mr. Parsons.

*Bristol and Clifton.*

Dr. Pritchard.
Dr. Fox.
Dr. Symonds.
Dr. W. Kay.
Dr. Bompas, (Fishponds).
Mr. Hetling.
Mr. Smith.

*Monmouth.*

Dr. Bevan.
Dr. Holbrook, (Crickhowel).
Mr. Brewer, (Newport).
Mr. Prosser.
Mr. Wilson.

*Bath.*

Dr. Barlow.
Dr. Blackmore.
Mr. Soden.
Mr. Tudor.
Mr. Norman.

*Warwick and Leamington.*

Dr. John Conolly.
Dr. Luard.
Dr. Lloyd.
Dr. Thomson, (Stratford).
Mr. Hiron.
Mr. Pritchard.
Dr. Loudon.

*Hereford.*

Dr. Bleeck Lye.
Mr. Griffiths.
Mr. Bevan.

*Oxford.*

Dr. Kidd.
Dr. Daubeney.
Mr. Tuckwell.
Mr. Wingfield.
Mr. Hitchings.

*Winchester.*

Dr. Crawford.
Mr. Wickham.
Mr. Lyfòrd.

*Worcester.*

Dr. Hastings.
Dr. Malden.
Dr. Streeten.
Mr. Carden.

*Chichester.*

Dr. Forbes.
Dr. M'Carogher.
Mr. Dodd.

*Shrewsbury.*

Dr. Goldie.
Mr. Clements.
Mr. Crawford.
Mr. Griffiths.

*Northampton.*

Dr. Robertson.
Dr. Kerr.
Mr. Terry.

*Gloucester.*

Dr. Evans.
Mr. Wilton.
Mr. H. Carden.

*The following also is a List of the Donations and Subscriptions which have been already received :—*

| | Donations. £. | s. | d. | | Annual Subscriptions. £. | s. | d. |
|---|---|---|---|---|---|---|---|
| Dr. Baron, Cheltenham | 20 | 0 | 0 | ... | 1 | 1 | 0 |
| Dr. Barlow, Bath | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Brooks | 1 | 1 | 0 | ... | | | |
| Dr. Bevan, Monmouth | | | | ... | 1 | 1 | 0 |
| Mrs. Baillie, Cavendish Square, London | 5 | 0 | 0 | ... | | | |
| Dr. Bernard, Cheltenham | | | | ... | 1 | 1 | 0 |
| Dr. Carrick, Clifton, Bristol | 20 | 0 | 0 | ... | | | |
| Dr. Conolly, Cheltenham | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. C. T. Cooke, Cheltenham | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Coles, Cheltenham | | | | ... | 1 | 1 | 0 |
| Mr. Cole, Bewdley | | | | ... | 1 | 1 | 0 |
| Mr. W. Davis | 1 | 1 | 0 | ... | | | |
| Mr. Fryer, Bewdley | 20 | 0 | 0 | ... | | | |
| Mr. Griffiths, Hereford | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. T. T. Griffiths, Wrexham | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Dr. Hastings, Worcester | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Hitchings, Oxford | 2 | 2 | 0 | ... | | | |
| Dr. Holme, Manchester | 20 | 0 | 0 | ... | | | |
| Dr. Holbrook, Crickhowel | | | | ... | 1 | 1 | 0 |
| Mr. Histler | | | | ... | 1 | 1 | 0 |
| Dr. John Johnstone, Birmingham | 20 | 0 | 0 | ... | | | |
| Dr. Kidd, Oxford | 20 | 0 | 0 | ... | | | |
| Dr. Bleeck Lye, Hereford | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Martin, Reigate | | | | ... | 1 | 1 | 0 |
| Mr. Mountjoy, Cheltenham | | | | .. | 1 | 1 | 0 |
| Mr. Murley, Cheltenham | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Paxton | 1 | 1 | 0 | ... | | | |
| Dr. Rumsey, Amersham | 5 | 5 | 0 | ... | | | |
| Mr. A. W. Rumsey | | | | ... | 1 | 1 | 0 |
| Mr. Rumsey, Beaconsfield | | | | ... | 1 | 1 | 0 |
| Mr. Seager, Cheltenham | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Mr. Terrett, Tewkesbury | 10 | 0 | 0 | .. | | | |
| Mr. Wingfield, Oxford | | | | ... | 2 | 2 | 0 |
| Mrs. Woods, Isle of Man | 1 | 1 | 0 | ... | | | |
| Miss Woods, Isle of Man | 1 | 1 | 0 | ... | | | |
| Mr. James Dawson, Liverpool | 10 | 10 | 0 | ... | | | |
| Mr. Hebb, Worcester | 2 | 2 | 0 | ... | | | |
| Dr. Jeffreys, Liverpool | 2 | 2 | 0 | ... | 1 | 1 | 0 |
| Dr. Scott, Liverpool | 2 | 2 | 0 | ... | 1 | 1 | 0 |

*The following are the Contents of the three Volumes which have been already published by the Association:*

## CONTENTS OF VOLUME I.

### PART I.—ESSAYS AND CASES.


ARTICLE.

I.—An Address delivered at the First Meeting of the Association. By *Charles Hastings, M.D.* Physician to the Worcester Infirmary.

II.—On the Objects and Modes of Medical Investigation. By *Edward Barlow, M.D.* Physician to the Bath United Hospital, &c.

III.—Theory of the Frontal Sinus. By *E. Milligan, M.D. F.S.A.*

IV.—A Case of Imperforate Hymen. By *James Milman Coley, Esq.* Bridgnorth.

V.—Some Observations on the Peculiarities of Diseases in Infants and Children. By *J. K. Walker, M.D.* Physician to the Huddersfield Infirmary.

VI.—Upon the Reciprocal Influence of the Mind and Body of Man, in Health and Disease. By *Jonas Malden, M.D.* Senior Physician to the Worcester Infirmary.

VII.—Cases illustrative of Diseases of the Heart. By *Thomas Jeffreys, M.D.* Liverpool.

VIII.—Some Observations on the Value of the different Signs which distinguish the Sac in Strangulated Hernia, with some Practical Remarks on the Operation, and Cases in illustration. By *J. H. James, Esq.* Surgeon to the Devon and Exeter Hospital.

IX.—Case of Hydrocephalus. By *Thomas Stewart Traill, M.D.* late of Liverpool, now Professor of Medical Jurisprudence in the University of Edinburgh.

X.—A Proposal to establish County Natural History Societies, for ascertaining the Circumstances in all Localities which are productive of Disease or conducive to Health. By *J. Conolly, M.D.* Warwick; late Professor of the Practice of Medicine in the London University.

XI.—History of a Case of what has been commonly called Spina Bifida, occurring in an Adult. By *James Dawson, Esq.* Surgeon to the Liverpool Infirmary and General Hospital.

XII.—Case of Melanosis. By *David Williams, M.D.* Physician to the Liverpool North Dispensary. *(With a Portrait.)*

XIII.—Some Observations on the Necessity, Utility, and the Precursory Symptoms of Sleep. By *Roger Wakefield Scott, M.D.* Physician to the South Dispensary, Liverpool.

XIV.—Case of Aneurism of the Basilar Artery, suddenly giving way and occasioning death by pressure on the Medulla Oblongata. By *Egerton A. Jennings, Esq. F.L.S.* Surgeon to the Leamington Charitable Bathing Institution, &c. *(With a coloured Engraving.)*

XV.—On fixing the Scapula in Dislocations of the Humerus. By *Jonathan Toogood, Esq.* Senior Surgeon to the Bridgewater Infirmary.

XVI.—A Case of Osteo-Sarcoma. By *William Hetling, Esq.* Surgeon to the Bristol Infirmary *(With an Engraving.)*


### PART II.—REPORTS OF INFIRMARIES AND DISPENSARIES.


XVII.—Report of the Birmingham Infirmary for Diseases of the Eye, from March 1 to December 31, 1832. By *Mr. Middlemore*, Assistant-Surgeon to the Eye Infirmary, &c.

XVIII.—A Report of the Out-Cases attended by *Mr. Parsons*, at the Birmingham Infirmary, from January 1 to December 31, 1832.

ARTICLE.

XIX.—A Report of the State of Disease in the City of Worcester during the year 1832. By *Robert I. N. Streeten, M.D.* Physician to the Worcester Dispensary.

PART III.—MEDICAL JURISPRUDENCE.

XX.—A Case of suspected Poisoning by Cantharides, with an Account of the Inquest before the Coroner. By *Charles Hastings, M.D.* Physician to the Worcester Infirmary.

PART IV.—BIOGRAPHY.

XXI.—Biographical Memoir of the late Dr. Thackeray, of Bedford.

# CONTENTS OF VOLUME II.

PART I.

I.—An Address delivered at the First Anniversary of the Association. By *Edward Barlow, M.D.* Physician to the Bath United Hospital, &c.

PART II.—MEDICAL TOPOGRAPHY.

II.—Sketches of the Medical Topography of the Hundred of Penwith, comprising the district of the Landsend, Cornwall. By *John Forbes, M.D. F.R.S.* Physician to the Chichester Infirmary, &c. *(With a Map.)*

III.—Medical Topography of Bristol. By *Andrew Carrick, M.D.* Senior Physician to the Bristol Infirmary; and *John Addington Symonds, M.D.* Physician to the Bristol General Hospital, and Lecturer on Forensic Medicine.

IV.—Topographical Account of Stourport, Worcestershire, and its immediate Neighbourhood. By *Kenrick Watson, Esq.* Surgeon.

PART III.—ESSAYS AND CASES.

V.—Additional Facts and Observations on the efficacy of Strychnia in some forms of Paralysis. By *James Lomax Bardsley, M.D.* Physician to the Manchester Royal Infirmary, &c.

VI.—Observations on the Treatment of Syphilis without Mercury. By *Thomas Green, M.D.* Bristol.

VII.—Observations on Chronic Peritoneal Inflammation and its Treatment, with Cases. By *Edward Thompson, Esq.* Whitehaven, Member of the Royal College of Surgeons.

VIII.—History of a Case of Lithotomy by the Rectum. By *James Dawson, Esq.* Surgeon to the Liverpool Infirmary.

IX.—Case of Hydrophobia. By *Ralph Barnes Grindrod, Esq.* Surgeon, Manchester. *(With a Plate.)*

X.—On the Variations in the Production of Certain Diseases not usually supposed subject to Epidemic Influence. By *J. Brown, M.D.* Physician to the Sunderland and Bishopwearmouth Infirmary.

XI.—A Case of Tuberculous Affection of the Right Kidney, with extensive disease of the Spinal Column, preceded by the expulsion of a Biliary Concretion. By *John Pritchard, Esq.* Surgeon, Leamington.

XII.—A Case of Uterine Hydatids. By *William Daniel Watson, Esq.* Surgeon, Warwick. *(With a Plate.)*

ARTICLE.

XIII.—Singular Case of a Foreign Body found in the Heart of a Boy. By *Thomas Davis, Esq.* Surgeon, Upton-upon-Severn. *(With a Plate.)*

XIV.—On Dislocation of the Shoulder. By *W. F. Morgan, Esq.* late House-Surgeon to the Bristol Infirmary.

XV.—A Description of the Anatomical Structure of the Liver of a Rat, from Cuba. By *Henry Riley, M.D.* Senior Physician to St. Peter's Hospital, Bristol. *(With a Plate.)*

XVI.—Observations upon Cholera, as it appeared in Wolverhampton and its Neighbourhood, in August, September, and October, 1832. By *T. Ogier Ward, M.B.* Physician to the Dispensaries of Wolverhampton and Lichfield.

XVII.—Some Observations on the Peculiarities of the Diseases of Infants and Children. By *J. K. Walker, M.D.* Senior Physician to the Huddersfield Infirmary.

XVIII.—Some Observations on the Influence of Sleep on the Vital Functions. By *Roger Wakefield Scott, M.D.* Physician to the Liverpool South Dispensary.

PART IV.—MEDICAL JURISPRUDENCE.

XIX.—An Attempt to ascertain, by experiment, the exact difference between the changes produced in the Lungs of still-born Children, by their artificial inflation, and those produced in the Lungs of new-born Children, by natural respiration. By *Egerton A. Jennings, Esq. F.L.S.* Surgeon to the Leamington Charitable Bathing Institution.

PART V.—REPORTS OF INFIRMARIES.

XX.—Report of the Birmingham Infirmary for Diseases of the Eye, from January 1 to December 31, 1833. By *Richard Middlemore, Esq.* Assistant Surgeon to the Eye Infirmary, &c.

XXI.—A Report of the Out-Cases attended by *George Parsons, Esq.* at the Birmingham Infirmary, from January 1 to December 31, 1833.

PART VI.—BIOGRAPHY.

XXII.—Biographical Memoir of the late Dr. John Darwall, of Birmingham. By *John Conolly M.D.* of Warwick.

# CONTENTS OF VOLUME III.

PART I.

I.—An Address delivered at the Second Anniversary of the Association. By *John Conolly, M.D.* late Professor of Medicine in the London University.

PART II.—REPORTS.

II.—A Report on the Chemistry of the Blood, as illustrative of Pathology. By *Egerton A. Jennings, Esq. F.L.S.* Surgeon to the Leamington Charitable Institution.

III.—A Report on the present State of our Knowledge of Anatomy. By *Thomas Turner, Esq. M.R.C.S.* Lecturer on Anatomy and Physiology; Surgeon to the Manchester Royal Infirmary, &c. &c. &c.

## PART III.—ESSAYS AND CASES.

ARTICLE

IV.—Remarks upon the Progress and Causes of Cholera, as it occurred in Bristol, in 1832. By *John Addington Symonds, M.D.* Honorary Secretary to the Bristol Board of Health; Physician to the Bristol General Hospital, and to the Bristol Dispensary.

V.—An Account of Scarlatina, as it appeared in the Town and Neighbourhood of Beaconsfield, in Buckinghamshire, in the autumn of 1832. By *Nathaniel Rumsey, Esq.* Member of the College of Surgeons of London, and Surgeon at Beaconsfield.

VI.—Observations on some of the Causes which influence good or bad Stumps, in certain Cases of Amputation of the Thigh. By *J. H. James, Esq.* Surgeon to the Devon and Exeter Hospital.

VII.—A Case of Extra-uterine Fœtation with Remarks. By *Congreve Selwyn, Esq.* Surgeon to the Ledbury Dispensary. *(With a Plate.)*

VIII.—Observations on Pterygium. By *Richard Middlemore, Esq.* one of the Medical Officers of the Birmingham Eye Infirmary; Lecturer on Diseases of the Eye, &c.

IX.—Some Observations on the Peculiarities of the Diseases of Infants and Children. By *J. K. Walker, M.D.* Senior Physician to the Huddersfield Infirmary. (Continued from vol. ii. p. 422.)

X.—An Essay on Puerperal Convulsions. By *J. T. Ingleby, Esq.* Member of the Royal College of Surgeons, and Lecturer on Midwifery at the Birmingham School of Medicine.

XI.—Pathological Remarks on some of the Diseases of the Brain, particularly in reference to the uncertainty of Diagnosis. By *Thomas Jeffreys, M.D.* Liverpool.

XII.—A Case of Extreme Enlargement of the Articular Epiphyses of the larger Joints, from Rickets. By *Thomas Brayne, Esq.* Surgeon, Banbury. *(With a Plate.)*

## PART IV.—REPORTS OF INFIRMARIES.

XIII.—Report of the Birmingham Infirmary for Diseases of the Eye. By *R. Middlemore, Esq.* one of the Medical Officers of the Birmingham Eye Infirmary; Lecturer on Diseases of the Eye, &c.

XIV.—Report of the Out-Cases attended by *George Parsons, Esq.* at the Birmingham Infirmary, from January 1 to December 31, 1834.

XV.—Report of the Out-Cases attended by *Frederick Ryland, Esq.* at the Birmingham Infirmary, between the 25th December, 1833, and the 25th December, 1834.

## PART. V—BIOGRAPHY.

XVI.—A Biographical Sketch of the Life of the late Dr. Robert Jackson, Inspector of Hospitals. By *Thomas Barnes, M.D. F.R.S.E.* Physician to the Carlisle Dispensary and Fever Hospital.

## PART VI.—MEDICAL JURISPRUDENCE.

XVII.—Some Remarks on the Bristol Case of Poisoning, and on Disinterment for Forensic Purposes. By *J. A. Symonds, M.D.* Physician to the Bristol Hospital, and Lecturer on Medical Jurisprudence.

LATELY PUBLISHED,

A DISSERTATION ON THE NATURE AND PROPERTIES

OF THE

# MALVERN WATERS,

AND AN

*Enquiry into the Causes and Treatment*

OF

## SCROFULOUS DISEASES AND CONSUMPTION,

TOGETHER WITH SOME REMARKS UPON THE INFLUENCE OF

THE TERRESTRIAL RADIATION OF CALORIC

UPON

## Local Salubrity.

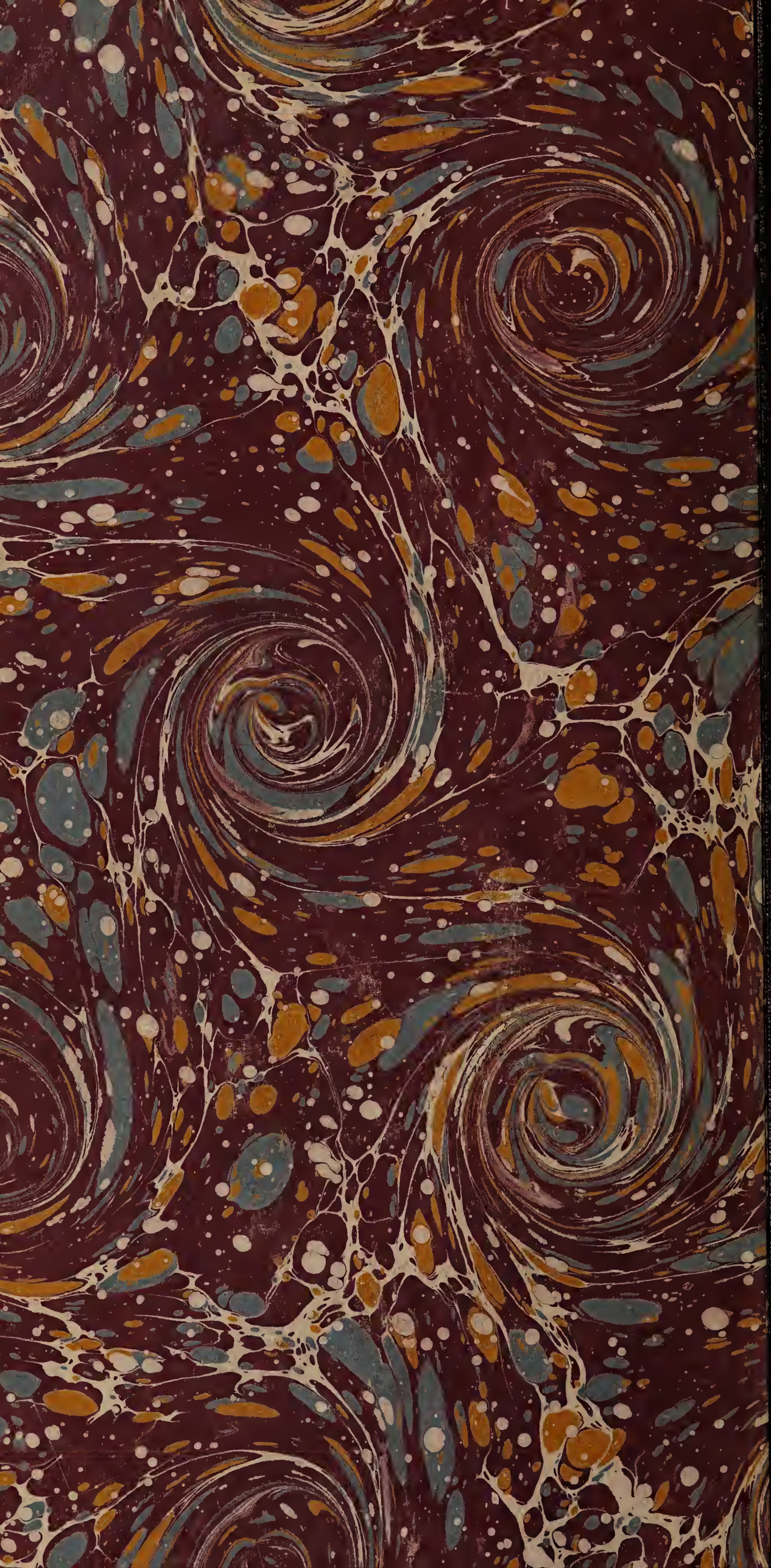
SECOND EDITION, WITH CASES, &c. &c.


## BY WILLIAM ADDISON, F.L.S.

*Member of the Royal College of Surgeons in London, and Surgeon to H. R. H. the Duchess of Kent.*



LONDON:
PRINTED FOR CHURCHILL, 16, PRINCES STREET, SOHO;
DEIGHTON, AND RIDGE, WORCESTER.


"The best part of Mr. Addison's book is his description of scrofula, its causes, the various forms in which it shews itself, the means of prevention, and the modes of treatment. This leads on to the tubercular degeneration as one of the products of a scrofulous diathesis; and the diseases of the lungs naturally follow. The volume concludes with a chapter on the changes in atmospheric temperature, and salubrity by terrestrial radiation, which is exceedingly ingenious and interesting, and well worthy of notice. We fear the fashionable doctrine of the day, malaria, will succumb a little before this new theory; new at least as applied by our author, who brings forward many very curious facts in confirmation of his views. We recommend the consideration of the subject to our readers."—*Medical Gazette.*